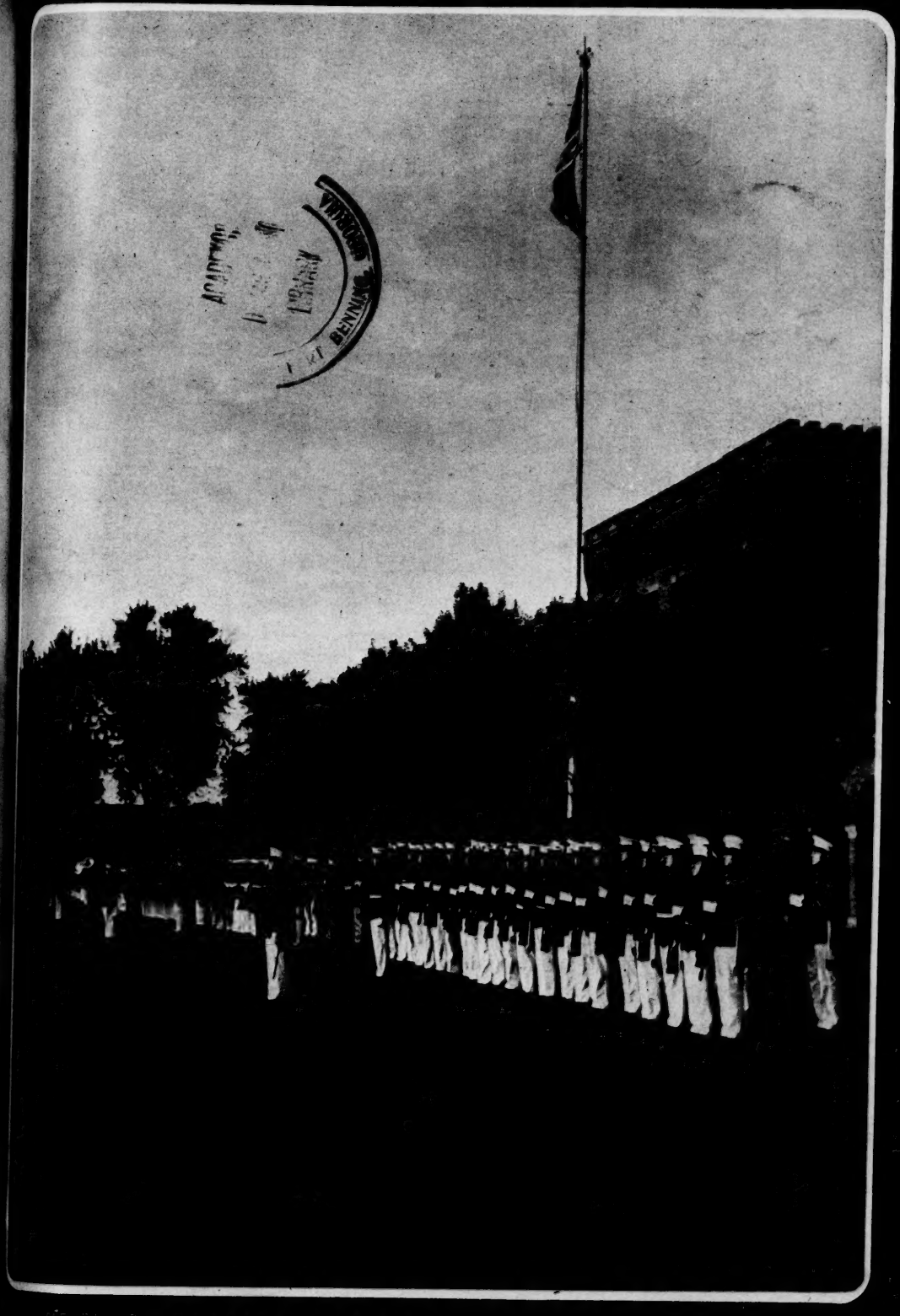
Gazette
THE MARINE CORPS



1775

NOVEMBER

1939

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NECESSITY

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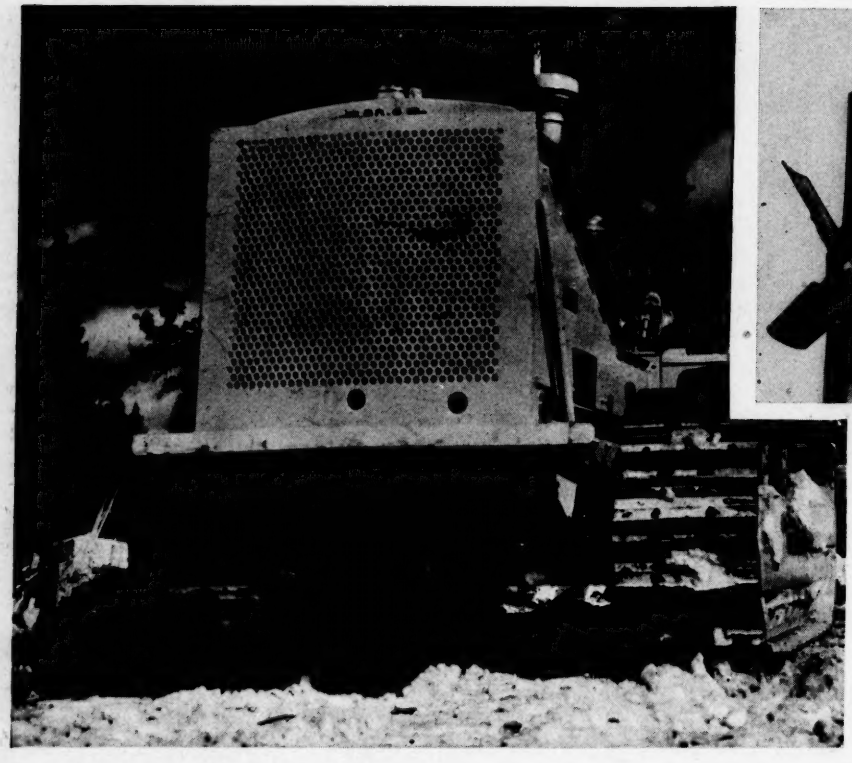

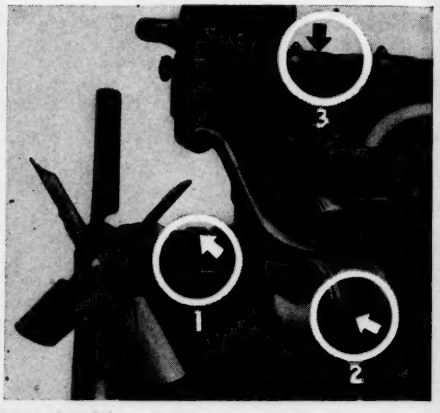

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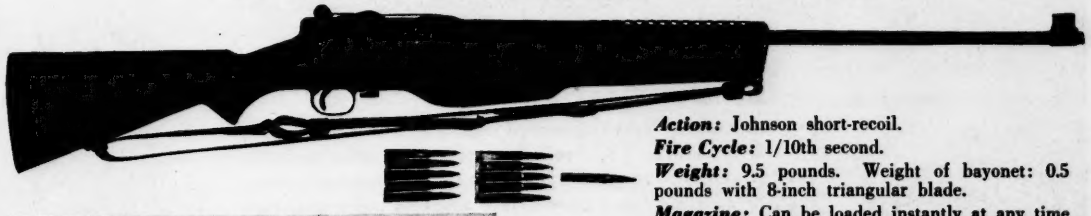

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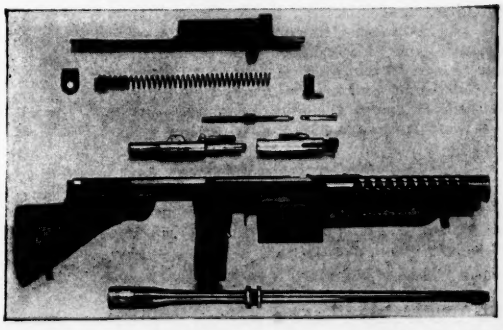

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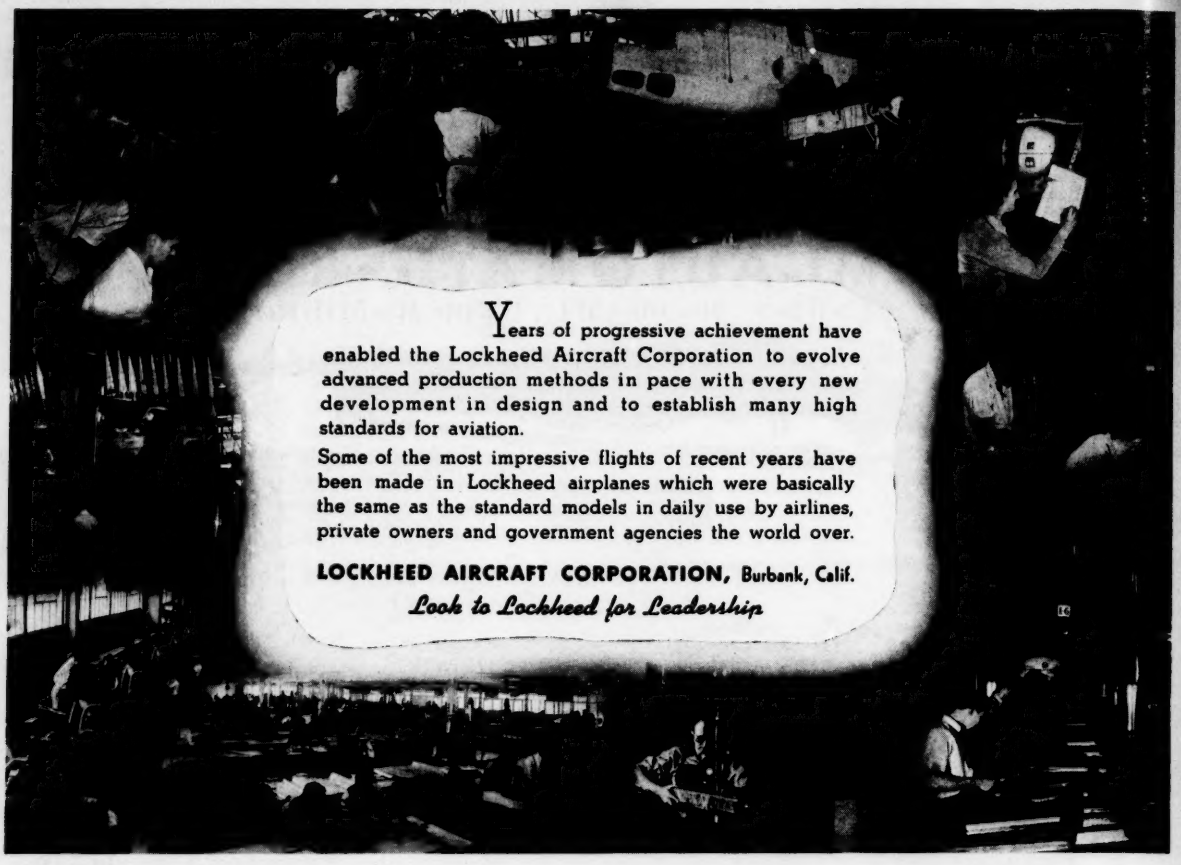
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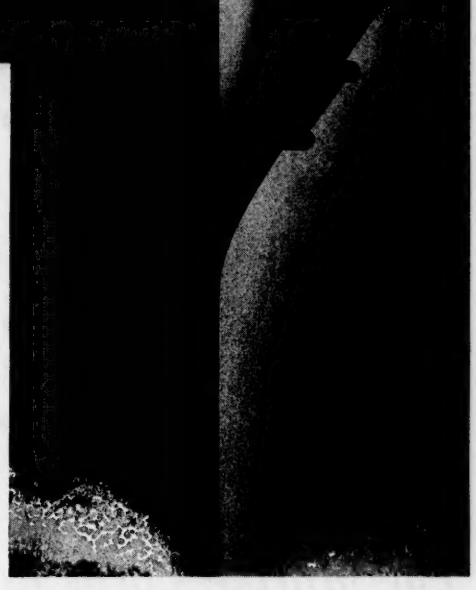

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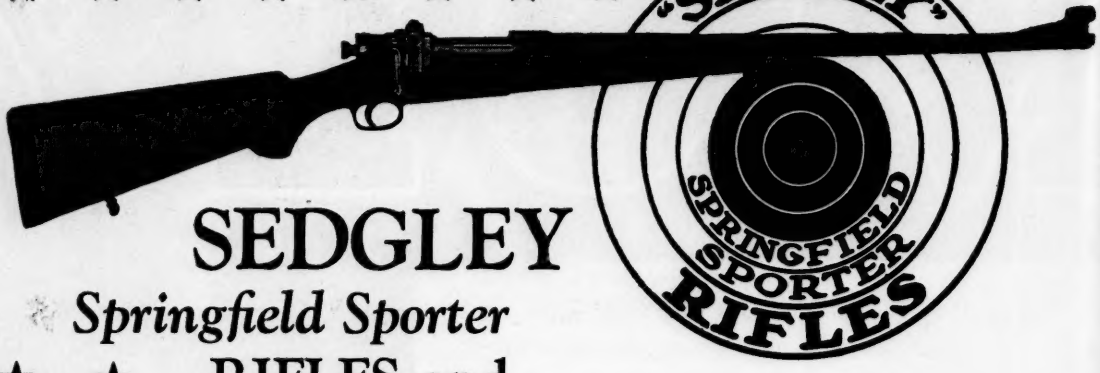

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THE MARINE CORPS GAZETTE

WASHINGTON, D. C.

Vol. 23 ANNIVERSARY NUMBER No. 4

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Opinions or assertions in the articles are the private ones of the writers, and are not to be construed as official or reflecting the views of the Navy Department or the naval service at large.

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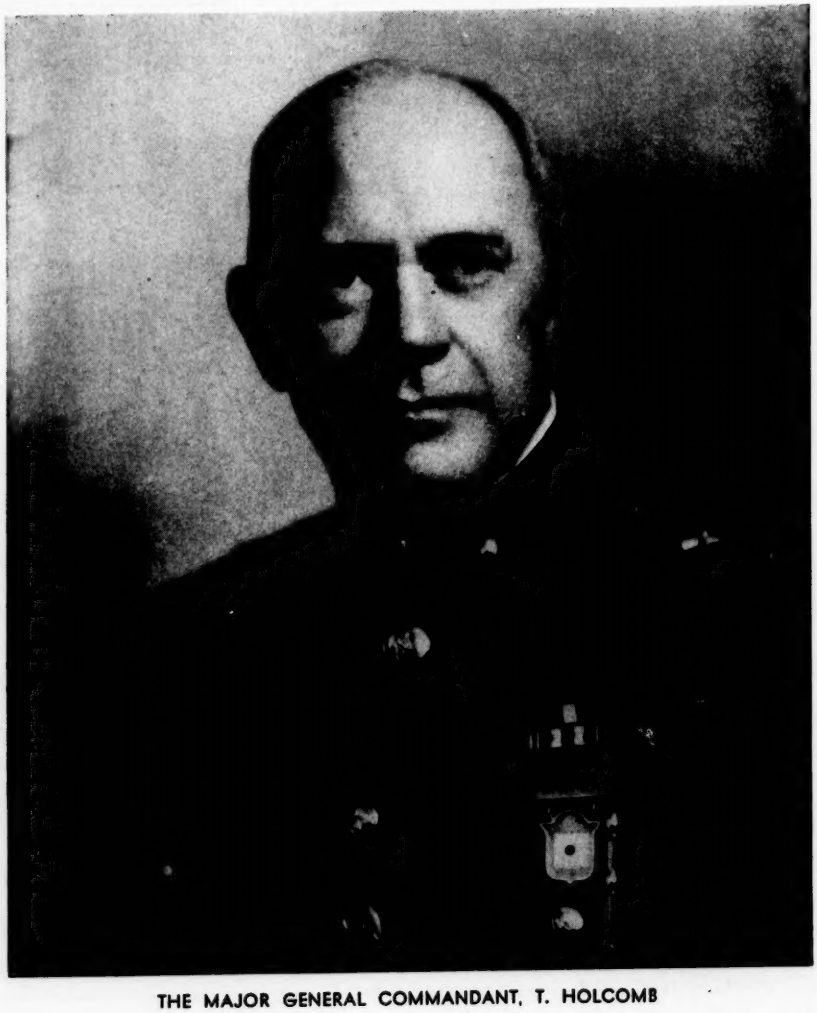

THE MAJOR GENERAL COMMANDANT, T. HOLCOMB

HEADQUARTERS
UNITED STATES MARINE CORPS

WASHINGTON, D. C.

10 November, 1930

From: The Major General Commandant.
To: The Marine Corps.

Subject: Annual Message.

1. From Major Burrows' single battalion in 1798, to our present strength, the spirit of the Marines has always been that of devotion to flag and country. Our added responsibilities throughout the years have brought increased strength in numbers and capabilities.

2. The present condition of world affairs and the added duties in connection with our neutrality have entailed a further increase in strength; further increase in responsibilities. We must look forward, take stock, and make sure we are ready for any tasks assigned.

3. On the threshold of a new year, I want to express my confidence that the members of the Corps will worthily carry on the traditions of the past. To the new men who are joining our ranks for the first time, my greetings. To you, we entrust your just share of the responsibility of these traditions, and I know you will live up to them.

THE MARINE CORPS GAZETTE

Vol. 23 NOVEMBER, 1939 No. 4

Birthday of The Corps

By Col. P. A. del Valle, U.S.M.C.

HISTORY records that the Continental Congress on 10 November, 1775, saw fit in its wisdom to provide for the creation of a body of troops who should also be *"so acquainted with maritime affairs as to be able to serve to advantage at sea."* On 10 November, 1939, therefore, we celebrate our official birthday in varying fashion, wherever there may be a large or a small group of us gathered, from Peiping, China, to the Virgin Isles in the Caribbean. The general situation in the world at large, at this writing, is such as to warrant a certain apprehension on the part of those who are charged with the national defense. As a consequence of this the Corps, upon its 164th birthday, can look forward to an actual strength of 25,000 enlisted. Not a very large Corps, to be sure, but a definite improvement on the weakness which afflicts us between wars. It is a deplorable policy, from the point of view of national defense, this periodic lapse into peacetime desuetude. But since we do not make the policy, we are quite unable to do anything about it, and can only rejoice that upon this particular birthday we seem to be upon a better footing than was the case upon our last one.

There are many factors which militate against our holding on to an adequate strength in peace times. Among them we may justly count a certain natural antagonism on the part of the other services, who, on the basis of every man for himself, when the appropriations are lean, are

Major General Little Cutting the Birthday Cake

Birthday Ball at the Marine Barracks, Quantico, Va.

bound to look to their own at the expense of the general interest. We being relatively small, can expect only the parings after the large ones have been fed the meagre rations of peace times.

There are other things, too, which the writer believes must be listed among the adverse factors, not forgetting our own responsibility for presenting our case to the bar of public opinion, and to the Navy in the most favorable light. In the main it can be said that the answer to our problem lies in boiling ourselves down to the essentials, casting aside all that which is pure claptrap and without virtue in the moral or physical sense. For we *must* keep fit and useful, else we shall certainly perish. The past has its glories, and the tradition it has left to us is a fine one, and of inestimable moral value. Now, however, we are in the present, and the direction in which we must look is that of the future. What is it that we are really going to have to do? There is a rough indication of it in our general directive, the mission assigned to us in the joint scheme of national defense. The past, with its many tropical expenditions, will likewise give us an indication of what may in future be required of us. It sometimes seems that the main and the many secondary missions which we may expect to execute form so complex a picture that it is impossible to state in a few words just what kind of a Corps we should strive to be in order to best be fitted for the work we must do. We must not, however, be discouraged in our search for the answer by the maze of complexity with which it seems surrounded. Let us keep our sense of values always in mind, and let us be handy, flexible, and ready. And above all, let us keep our sense of humor, for all our glorious past, lest the past itself become a burden.

All this is not meant to imply that we should forget our brilliant past, or that we are constantly in search of the answer posed and answered so quaintly by an unknown bard:

From the "School of Application"
To the shores of Subig Bay,
We've avoided all exertion,
In the most ingenious way.
Admiration of our mattresses,
The "finest ever seen"
They're the answer to the question,
Why the hell *is* a Marine?

It may have been a flippant cynic, or simply a minor poet with a penchant for bigger and better doggerel who wrote the foregoing parody on the Marines' Hymn. One even imagines at times that a simple sot with a sense of rhythm and of humor might have invented it at some barroom brawl. Whoever did compose the piece served a good purpose. He mocked good naturedly what was at the time a bombastic stanza, since happily modified, in our non-too-modest song of self appreciation. Since it helped to readjust the stanza within a better limit of modesty, without destroying the moral value of our rollicking ballad, or its unquestioned merit as a drinking song, let us not condemn him too harshly. He saved our sense of humor.

It may seem surplusage to defend our existence as a Corps in the light of the World War, with the almost legendary episode of Belleau Wood, followed by the most bitter and brilliant fighting in our history—in anybody's history. The fact is that one of the reasons for our existence is that we defend it, from war to war, against those who have but little use for us between times because we seem to clutter up the place and get into their hair without any appreciable advantage accruing.

(Continued on page 78)

CARDED

Counterbattery in a Landing Operation

By 1st Lieut. F. P. Henderson, U.S.M.C.

1st Prize Essay

NO more difficult problem faces the commander of a landing force than that of counterbattery. Upon its successful solution may depend the success or failure of the entire operation. In any event the length of the casualty lists of the attacking force will record the effectiveness of its counterbattery measures.

In our peace time maneuvers counterbattery does not bulk very large in the scheme of things. This is due partly to a lack of personnel and materiel with which to carry on counterbattery operations. To a larger extent, however, it is due to the fact that we have no definite plan or doctrine for counterbattery and no individual or organization charged with the successful accomplishment of the counterbattery mission.

Just how much of a problem is it that confronts a landing force commander? In its general aspect it is the same problem that faced all armies in the last war and will face them again in the next war. It is the necessity of neutralizing the hostile artillery in order that our own infantry might advance without prohibitive losses. The staggering losses suffered by infantry from artillery fire in the World War (about 88% of all casualties in the AEF in 1918) made counterbattery of paramount importance in any offensive operation.[1] Otherwise any victory that might be obtained would be at a cost too great for the results achieved.

To the very end of the war, however, casualty rates maintained their terrifically high figure—as counterbattery efforts failed to meet with any great success. With all the refinements possible in stabilized warfare, such as flash and sound ranging, continuous aerial photography and reconnaissance, and all manner of intelligence work, it still proved impossible to locate enough of the hostile artillery to make counterbattery effective.

Thus we find that in the Meuse-Argonne offensive the American First Army had from 600 to 800 batteries in line. Yet according to our records not over four of them were out of action at any one time from enemy fire. Although we had twice as many guns and several times as much ammunition as the Germans our counterbattery preparation against their artillery was not decisive due to the usual inability to locate batteries on which to fire.[2]

Not until the spring of 1918, when the Allies began to counterbattery the terrain instead of only known or suspected enemy artillery positions did their efforts bring results that were at all satisfactory. To do this, however, meant the elimination of all terrain which certainly did not contain any enemy artillery such as swamps, lakes, steep slopes and areas visible from our own OP's. This accounted for about 50% of all terrain. Neutralization fire was then placed on all the remaining terrain within 7,000 yards of our own infantry.[2]

Such a procedure meant that vast amounts of medium and heavy artillery and huge quantities of ammunition must be marshalled to accomplish counterbattery. But only by such a great expenditure of effort could results at all satisfactory be obtained.

Since the World War all armies have attempted to find a solution to the counterbattery problem only to find that no great improvement seems possible over the methods used in the World War. *L' Artillerie Au Combat*, a textbook of the French Ecole D' Application D' Artillerie clearly states the status of the problem when it says, "The objective (of counterbattery) is complete paralysis of the enemy artillery. Experience has shown that this is never accomplished, even with a great disproportion of artillery."

What now are the special problems of counterbattery that must be met and overcome by a landing force?

The very nature of the operation with the resultant methods of employment of the opposing forces puts the attacker at a disadvantage while giving every advantage to the defender. The attacker is fighting a mobile battle, with the absolute minimum of military impedimenta and equipment.

The defender, on the other hand, is in a position to enjoy all the advantages of a stabilized defense. He will have every opportunity to carefully select his artillery positions, fortify them, camouflage them, and stock ammunition nearby. It is likely that the defender will have more artillery than that usually considered organic for the infantry force of the defense garrison[3] as it is his most powerful weapon of defense once the attacker has landed.

Used in conjunction with small infantry groups defending the landing beaches and key tactical points, the defense artillery can reach out and delay or immobilize the enemy's attack while the main defense force is held in reserve for a decisive counterattack.

The fire of the defense artillery can be expected to be even more effective than in normal land warfare. In the latter case artillery fire must be spread over a wide frontage and in considerable depth. In a landing operation the entry into action of all elements of the attacking force is canalized at the beach. Continuous massed fire on the beaches and contiguous areas cannot help but take a high toll in men and materiel from the attacker. Commanders of Marine Corps artillery units with base defense forces have repeatedly stated that in their opinion such fire would so disorganize an attacking force that its chances of success would be slight in the face of an aggressive defense.

These defensive fires can be laid down under any condi-

[1]From the *Field Artillery Journal* for July-August, 1938; Reports from medical experts with the Chinese Army classify casualties as —— and 80% for artillery projectiles.

Accurate figures are not available from the Spanish War. However, observers' estimates have sustained the fact that artillery projectiles caused about 80% of all casualties in combat.

[2]"Counterbattery in the AEF," by Col. Conrad A. Lanza, the *Field Artillery Journal*, September-October, 1936.

[3]Even if additional artillery is not available extra batteries may be formed from the organic artillery if equipment is available. This is possible because it is not necessary that batteries be organized with sufficient equipment and personnel for a prolonged field campaign.

For example: A Marine Corps pack howitzer battalion on the defensive could form one or even two additional batteries from personnel not needed in a situation where the gun positions are already prepared, communications established and ammunition stocked at the position. These additional batteries could be armed with the M1897 French 75's now used for training purposes.

XUM

tions of weather, darkness, or screening by smoke without the necessity of a preliminary adjustment. The unique position of the defender enables him to physically carry his artillery survey right to the terrain the enemy will occupy. He can further verify and check his prepared data by daily registrations on the beaches and key terrain features.

The time available to him enables him to prepare fires for all points at which an enemy might land, for the terrain over which he must advance, and for the probable positions he will attempt to seize. Thus, from the moment the attacker reaches the beach he can expect to be under constant, accurate, artillery fire.

The defender's artillery positions can be expected to be well fortified with sandbag emplacements and shelter trenches. This will render the problem of neutralization all the more difficult and, in requiring larger amounts of ammunition to achieve neutralization, demand that none of it be wasted on unoccupied positions.

Knowing that the success of the attacker's counterbattery effort will largely depend upon the ability of his aerial observers in locating the defense batteries, the defender will have taken every possible precaution to achieve perfection in camouflage. Whether or not firing discloses his position can be determined in advance and corrective measures taken. The installation of numerous dummy positions, with one or two men at each to fire smoke puffs, will divert attention and counterbattery fire from the real positions.

It is thus evident that troops in a landing operation can expect a casualty rate as high, or higher, than World War experience would indicate. The defense artillery, on the other hand, can expect to suffer less than experience would indicate.

The attacker will have no flash and sound ranging equipment available to aid in locating the defense artillery. Neither will he have any period of weeks or months in which to gather information of the enemy artillery dispositions. On the contrary, the time available to collect and evaluate such information will usually be only a few days, or even hours. The attacker will thus be under a severe handicap in this most vital phase of counterbattery. He will have one important factor in his favor however. The amount of hostile artillery to be located in a landing operation will naturally be but a very small fraction of the hundreds of batteries which had to be located on any particular front in the World War. In addition, the landing force will either know the exact amount of artillery the enemy has, or will be able to make a reasonably accurate estimate of the amount. Therefore, after the attacker has located all possible batteries before the attack, he will know approximately how many batteries remain to be found and neutralized during the attack.

To combat the defense artillery, the landing force will have to rely entirely upon naval gunfire and combat aviation. It would be an impossibility to transport and land the medium or heavy artillery and ammunition required for counterbattery in time to be of any benefit. Counterbattery, to accomplish its purpose, must have achieved the desired effect before the enemy's artillery has decimated our assaulting infantry. The organic light artillery should never be used for counterbattery purposes. Its sole mission is to provide close support to the infantry and it should not be diverted from this mission except in cases of extreme emergency.

If the armies of the World War could not satisfactorily solve the counterbattery problem with all the means at their disposal, what then can a landing force commander do with his limited means and opportunities?

Much can be accomplished if there is an agency in the landing force whose sole responsibility is counterbattery. Only in this way is it possible to insure that duplication of effort or unprofitable expenditure of effort will be avoided and the maximum return realized from the means available.

It is therefore believed that there should be a Counterbattery Officer on the landing force staff. In the Marine Corps there should be such an officer on the Fleet Marine Force staff and on the staff of each brigade. The addition of this officer to the brigade staffs seems expedient in view of the fact that the brigades should be capable of independent action.

The Counterbattery Officer should be a trained field artilleryman, having a thorough knowledge of the capabilities and limitations of naval gunfire and Marine Corps aviation as counterbattery agencies. Rather than make this officer a separate staff section it seems more advisable to place him in the third section as an assistant to F-3 (or B-3). This is due mainly to the fact that he will not have any separate forces available for counterbattery but must use organic agencies to accomplish the mission. The counterbattery plan, therefore, must be closely coordinated with the general plan of attack to secure maximum effectiveness and economy of force.

The first and most difficult task facing the counterbattery officer is the location of the hostile artillery. This should be started by a study of the enemy's artillery doctrine and the types of materiel probably used in the defense force. Using the knowledge gained from this study in conjunction with the available maps or photos of the area to be attacked, the capabilities of the enemy artillery may be determined. From this information the Counterbattery Officer can select the probable enemy artillery areas. It now remains to determine which of these areas the enemy is occupying at the time the landing takes place.

If photographic reconnaissance is made of the enemy's positions before the attack, the Counterbattery Officer, working with the intelligence section of the staff, will endeavor to locate the enemy's positions from the photos.

If reconnaissance patrols are sent ashore before the attack, at least one patrol should include an artillery officer and two or three experienced artillery NCO's. Acting under instructions from the Counterbattery Officer, they will reconnoiter the areas he has selected as probably containing enemy artillery to determine if there are any occupied positions in these areas. Further, they and all other reconnaissance patrols should be instructed to look for dummy positions in order that the expenditure of neutralization effort on such positions may be avoided.

Information received from espionage agents, either prior to the departure of the expedition or just prior to the attack, as to the amount and location of the enemy's artillery would be invaluable to the Counterbattery Officer at this time.

After a thorough sifting and evaluation of all the in-

formation obtained by the above means, the Counterbattery Officer will then be in a position to formulate the counterbattery plan. When this has been done he will have arrived at the amounts of aviation and ship's gunfire needed to successfully accomplish the counterbattery mission.

This plan will then be submitted to F-3 (or B-3) for incorporation into the plan of attack. If it is found to be impossible to furnish the counterbattery forces in the amounts requested, the plan must then be revised to accomplish the mission with the means that are available. However, every effort should be made to allocate all the forces possible to counterbattery work. The greater the force given to the initial counterbattery effort, the more likely will the plan succeed. An overwhelming volume of fire must be brought to bear on known or suspected batteries—otherwise neutralization will not be achieved. To quote Col. Lanza on counterbattery methods between major attacks in the World War, "Not less than twelve batteries of at least 155mm caliber were used on each problem, and up to 36 batteries. Fire was simultaneous at maximum rate of fire."[4] In any case, sufficient forces must be made available to perform the following three tasks essential to successful counterbattery:

1. Neutralization of all known or definitely suspected enemy positions prior to "H" hour.
2. Maintenance of constant aerial surveillance on probable enemy positions once the attack has started.
3. Maintain a reserve of aviation and ship's gunfire to engage hostile batteries, not previously located, when such batteries reveal themselves by opening fire or by movement.

The last two of these tasks are made necessary by the fact that definite location of but a small portion (if any) of the hostile artillery will be known prior to the attack. The limited amounts of naval ammunition available and the characteristics of aviation makes the practice of neutralizing all of the probable enemy artillery areas an impossibility.

However, if continuous aerial surveillance is maintained on the areas selected by the Counterbattery Officer as most probably containing artillery, any artillery present in these areas will very likely reveal itself when it opens fire. It can then be attacked promptly and early neutralization achieved. Furthermore, it is highly improbable that the enemy will be able to emplace all of his artillery in positions from which it can fire on all possible landing beaches. As soon as he has determined where the main attack is coming, he will be forced to displace some of his batteries to alternate positions in order that they may fire in the desired sector. Such movement provides the golden opportunity for effective counterbattery, as artillery in movement is in its most vulnerable formation.

A strong air attack at this time can inflict high casualties on the personnel, cripple the motive power, and completely disorganize and immobilize the unit. Complete destruction of the materiel can then be undertaken by ship's gunfire. As any such displacement will probably be kept to the shortest possible distance, it is imperative that provisions be made to detect it immediately and forces be available to attack it at once.

In all probability the greatest part of the counterbattery in any landing operation will have to be done by this method, i.e., maintaining a vigilant surveillance over all suspected areas until the hostile artillery is located through its own operations, then attacking it with all available forces. Therefore, if the enemy is known to have a considerable amount of artillery which has not been located, the Counterbattery Officer should recommend that a strong feint, with troops actually landing, be made prior to the time of the main attack. Such an operation will force the enemy to open fire with his artillery and make whatever displacements are necessary to meet the feint.

By this means it will be possible to neutralize a part of his artillery before the main attack is launched. If this plan does succeed, a part of the counterbattery forces can then be released to support the main attack. In addition, his remaining artillery will probably have to displace again when the main attack is made, particularly if the two attacks are at widely separated points.

This method of obtaining information, on which to base counterbattery operations was successfully used by the French at Verdun in October, 1916. To quote *L' Artillerie Au Combat:* "—as a result of a feint 158 (German) batteries open fire and were immediately taken under counterbattery fire. At the time of the regular attack only 90 of these batteries were able to fire."

During the landing the Counterbattery Officer will continue to gather and evaluate all possible information as to the hostile artillery, in order that the limited supply of naval gun ammunition and the striking power of aviation is not expended on unremunerative targets. Reports of artillery in position sent in by spotting or surveillance plans must be thoroughly checked before assigning a counterbattery agency to attack such a target. Otherwise, a large portion of total ammunition and effort expended will be against dummy or non-existent targets.

Lt. Col. Lavral, writing in the *Revue D' Artillerie* for July, 1937, states: "The most surprising thing to an officer newly assigned to the artillery information service is the high proportion of non-existent batteries—sometimes approaching 50 per cent without counting dummy batteries. Thus, in a series of experiments with batteries actually firing, ten out of twenty-four reported by various observers did not exist."

"For comparison, it may be noted that in 1918 the continuous advance in Belgium made it possible for battery commanders to check up on the adjustment and effect of their firing on previous days. It was found, in two cases, that emplacements fired upon with 250 rounds or more, caliber 155, the fire adjusted from beginning to end by airplanes, were not occupied during the fire."[5]

Past experience has shown that our own observers are not immune to the universal practice of seeing more batteries than actually are present—and in the process missing some of the real batteries. The Counterbattery Officer, in being the person with the most complete information as to the enemy artillery, is therefore the logical person to direct the counterbattery fire during the attack in order to avoid the pitfalls shown above.

While he will in no sense exercise any command over

[4] *Counterbattery in the AEF.*

[5] "Counterbattery—Reed or Oak?" *Field Artillery Journal*, July-August, 1938.

the ships or aviation units assigned to counterbattery missions, he will direct and coordinate their efforts (acting through F-3 or B-3) until complete neutralization of the enemy artillery is achieved.

As examples of why this control must be exercised let us take some cases which might arise in the course of a landing operation.

1. The spotting plane of a ship in the counterbattery group reports a battery in position firing. Under the proposed system, the ship reports this target to the Counterbattery Officer before taking it under fire. He examines the information he has available and finds that the reported location is one that he has suspected of containing an enemy battery. He therefore directs the ship to take the target under fire.[6] The ship soon reports back that, due to defilade, it cannot secure an adjustment on the target. The Counterbattery Officer now directs the Commander of an aviation counterbattery unit to attack the target. This the aviation unit does and reports back when neutralization has been achieved. A surveillance plane is now directed to maintain a watch on the area to be sure that the neutralization is complete. If the battery in question should be able to enter action again, the plane would report this to the Counterbattery Officer who would direct another attack against it.
2. The initial orders of the commander of an aviation counterbattery unit directs him to reconnoiter a certain area, definitely known to contain an enemy battery somewhere within it, locate the battery and neutralize it. The unit makes the reconnaissance, locates the battery, and attacks it. The commander reports that he has neutralized the battery but must now return to his carrier (or land base) to replenish his ammunition and fuel. To maintain neutralization and attempt to destroy the enemy materiel, the Counterbattery Officer now directs a ship of the counterbattery group to take the battery position under fire. After this firing has been completed, a surveillance plane is directed to maintain a watch on this position to insure that a prompt report is made should the battery be able to enter action again.

Many other examples could be given but these show the need for a centralized control of all counterbattery efforts. From these it can be seen that the Counterbattery Officer acts in the nature of a clearing house for information and as coordinating agency to prevent duplication of effort and to see that targets are attacked expeditiously with the best means available.

To accomplish his mission he must be in constant communication with all of the forces assigned to counterbattery. It might be possible to do this through the existing communication nets. This additional volume of traffic, however, might so overload the communication system that much of the counterbattery effort would be nullified due to the slowness of communication. It seems more advisable to provide an independent system (the accepted practice) to handle all counterbattery traffic. This would eliminate any delay in the reporting of targets or the issuance of instructions for the subsequent attack thereon. The personnel and equipment necessary to establish this system at the landing force headquarters would be furnished by the communication platoon of that unit.

The method proposed herein may not be the best that can be devised to cope with the counterbattery problem as it confronts the Marine Corps. It does provide, however, some agency within a landing force to collect and study information pertaining to the enemy's artillery, to formulate a definite plan for counterbattery operations, and to prevent dissipation of the limited counterbattery means available within a landing force. It further serves as a starting point for experiment to develop a counterbattery system and doctrine to meet the needs of the Marine Corps.

If this, or any improved system, can reduce our infantry's losses from artillery fire be even as much as one-half, it will have well served its purpose and the Marine Corps.

[6]Should he find that his preliminary study did not indicate this as a probable enemy position, that it does not now seem to be a logical position, or is evidently a dummy position, he would direct that a low altitude reconnaissance be made of the area to verify the report before expending any effort on the target.

The men of the 155-mm Battery are highly skilled in the use of these weapons and have given some fanciful titles to them.

XUM

Some of the Causes of Ancient and Modern Wars and Some of the Reasons for their Outcome

By Major General John A. Lejeune, U.S.M.C., Ret.

IN ALL probability, warfare is as old as the human race, having had its origin in the jungle, when man was as savage as the wild beasts that surrounded him. War was necessary, then, for his survival, including, as it did, not only the struggle of man for life and existence against the four-footed savage, but, also, against his primitive brother who competed with him for the possession of food, a dwelling place, or a mate, or who, for any other reason, aroused his envy, his covetousness, or his hatred.

At first, war was a combat between individuals, similar to the combat described in Genesis between Cain and Abel, in which Cain slew Abel and was branded with a mark on his brow which stamped him as the murderer of his brother. Already man had progressed to the point where human life was regarded as somewhat sacred, and the slaying of a man by his brother was deemed to be a crime.

Murder, however, although outlawed in the dawn of civilization by all peoples, notably in the Sixth of the Ten Commandments brought down by Moses from Mount Sinai and proclaimed as the law of God, still continues today, with more or less frequency, in every nation on earth.

Warfare between individuals, in all probability, was soon supplemented by warfare between families.

The family, at a very early date, became the unit of government and of defense and offense. The head, or patriarch of the family, ruled it and all the members of the family were banded together for the common defense and the common welfare. Animals lose the sense of responsibility for their offspring as soon as they are able to shift for themselves, but human mothers and fathers continue to care for and to attempt to guide theirs as long as they live. In this, the human savage, in all probability, was differentiated from the animal savage, not long after his creation. The family tie became stronger and stronger, and warfare between family groups occurred frequently in all stages of civilization.

Man's ability to organize and his executive capacity were powerful factors, too, in enabling him to survive in an environment in which he was constantly exposed to death by violence, by exposure, or by starvation. The family, therefore, unquestionably evolved into the clan, in an early era, and as such consisted, not only of the immediate family, but also of those related to the patriarch and their retainers. In the course of years, many of these clans increased in size to such an extent as to become tribes, and, finally, when stabilized or localized, took on the character of states or nations. These clans or tribes were organized chiefly for protective purposes, and they waged almost constant warfare with neighboring units of the same kind. They fought for the exclusive use of hunting grounds, or for the control of fertile areas in which life could be easily sustained, or for the possession of grazing fields for their flocks and herds which they had gradually accumulated.

Man has always been restless and warlike, and has always sought new areas to explore and to conquer, but was, eventually, driven by the pangs of hunger, as the numbers in his tribe or clan increased, to stabilize for a while, so that he might cultivate the ground in order to provide a sufficiency of food to supplement that which he obtained by the chase or from his flocks or herds.

Many tribes of North American Indians had reached a partial state of stabilization when the Europeans first appeared in the New World. The males, however, still continued to wander in pursuit of game or of their human enemies, leaving the squaws at home to raise the children and the crops.

Probably a similar process was followed by the semi-savage tribes of Europe and Asia. Prior to the discovery of America, however, stabilization, localization, cultivation of the soil, and civilization had become the normal state of existence in large parts of Europe and Asia, and in certain parts of Africa and America.

Under these conditions, the inhabitants became less hardy and less warlike than their more primitive and more barbarous neighbors and, for self protection, built walled and fortified cities in which the farmers, the shepherds, the cattleherders, and all those dwelling outside the walls took refuge when attacked.

Necessity, too, drove the masses of the people to strenuous labor, much of it of a sedentary nature, and that fact as well as the danger from attack and the instinct for conquest brought about the organization of standing armies, while peoples engaged in trade over the seas were compelled to protect their argosies from attack by pirates, or by trade rivals, through the instrumentality of armed vessels which were the forerunners of modern navies.

The fertile valleys of the Nile and the Euphrates appear to have been the domiciles of the earliest civilized peoples. There the famous cities of greatest antiquity were located. There still remain the ruins of Ur, Babylon, Thebes, Memphis and many other centers of popula-

tion, which are now being excavated and explored by antiquarians, who are constantly finding ancient writings proving the existence there of highly organized states of society and of more or less efficient forms of government, but always there seemed to have hung over the people like a pall the sinister cloud of war.

Their kings, or other rulers, were chosen because of their military prowess, and wars between city states went on almost continuously. Most to be feared, however, were the warlike people of the forest or of the desert. Over and over again, we read of their conquest of the less hardy and more civilized peoples. When people addicted to the arts of peace came into conflict with those addicted to the art of war, the struggle almost invariably ended in the triumph of the warrior races.

The story was repeated over and over again in later years and it is so recorded in history. For instance, the warlike Greeks vanquished and destroyed Troy; Sparta, then Thebes defeated the less virile Grecian states; Philip of Macedonia with his war-loving followers conquered the entire Grecian peninsula; and his remarkable son, Alexander the Great, led the Macedonian cohorts to triumph after triumph in Egypt, Syria, Asia Minor, Mesopotamia, Persia, and India.

Later on, the more virile Romans conquered Greece, as well as the great rival of Rome, the Semitic city state, Carthage, and extended their dominion over the Iberian Peninsula, Gaul, Britain, Egypt, Northern Africa, and a large portion of Asia; Roman Legions, too, crossed the Rhine and the Danube, and defeated the Teutonic tribes east and north of these rivers, but their possession of that area was uncertain and temporary.

Finally, owing to the decadence of the Roman people, the semi-civilized Teutonic tribes drove back the Roman Legions and overran, conquered, and occupied the European provinces of the Western Empire. The Angles and Saxons and the Danes occupied Britain, the Franks and the Norsemen conquered Gaul, the Goths and the Visigoths took control of Spain, the Lombards and kindred tribes harried Italy, and finally, the Western Roman Empire was erased from the maps of the world.

In addition, there were many other invasions of the civilized nations of the world by semi-barbarous tribes such as those which were ruled by Attila and Genghis Khan. The remarkable military successes of the Mongol hordes under the leadership of Genghis Khan and his successors brought nearly all of Asia, including the civilized peoples of China and India, under their rule, and the Great Khan at the head of a puissant host vanquished the armies of civilized Europe and penetrated to the very heart of that continent.

Gradually, in the course of centuries, nations were erected on the ruins of the Roman Empire. Their formation, however, was a bloody process. Innumerable wars occurred, not only between those nations, but, also, between the feudal lords of the same nation, and between the kings and their own subjects.

Religion, likewise, played a prominent part in the Old World in the shedding of human blood from the dawn of history.

A classical example is described in the Bible. I refer to the migration of the twelve tribes of Israel from Egypt to Palestine and the wars which they waged for the possession of the "Promised Land."

Moses, the leader of the migration, was reared and educated at the Court of Egypt, but his sympathy and his heart were with his enslaved people, and he determined to effect their liberation, their migration, and their establishment in the "Promised Land."

His people, however, were ignorant, superstitious, and cowardly. Having been slaves and ghetto dwellers for a long period of time, they knew naught of the lore of the wilderness or the desert, naught of the use of weapons, naught of the art of self-government. Many of them had long since abandoned the pure and simple worship of Jehovah and had become addicted to the superstitions and idolatry of the Egyptians. In their abject state, they preferred the misery of their then condition to the suffering and the danger which would confront them should they undertake an escape from Egypt. On the other hand, their Egyptian masters were loath to give up the slaves who labored for them so efficiently and so industriously.

Moses, himself, stood in need of preparation for his mission of leadership. This he obtained by several years of study and meditation in the wilderness or the desert. Doubtless, he improved the opportunity, too, to familiarize himself with the country to be traversed, the location of water holes, water springs, and food supplies, the feasible routes between the two countries, and the conditions, military and otherwise existing in the "Promised Land."

On his return to Egypt, two exceedingly difficult tasks confronted him. The inertness, the ignorance, and the fears of the Israelites had to be overcome, and, in addition, it was necessary to influence the rulers of Egypt to give their consent to the departure of the enslaved race.

These almost insurmountable obstacles he was, finally, enabled to surmount by the exercise of his extraordinary ability and his phenomenal knowledge of human psychology. In all history, there is no clearer demonstration of the truth of Napoleon's dictum that in a great crisis, *the man* is everything.

Moses led a mob out of Egypt but, after holding his followers in the wilderness for forty years, while he stimulated their religious spirit and racial esprit and prepared them for warfare and self-government, he died in sight of the "Promised Land" and his successor, Joshua, led a warrior race into the "Promised Land" of which every man and every woman except Joshua had been born and reared in the wilderness.

It is not astonishing, therefore, that they should have decisively defeated the tribes then in occupation of the "Land which flowed with milk and honey," destroyed their cities, and ruthlessly butchered their men, their women, and their children. Religious fanaticism, combined with the toughening process they had undergone, made them invincible in battle and merciless in dealing with the defeated foe.

For the next example of religious warfare, we will pass from B.C. to A.D., or more specifically from Moses to Mahomet.

Mahomet, an illiterate Arabian camel driver, succeeded

(*Continued on page 75*)

XUM

The Combat Board

By Captain Wallace M. Greene, U.S.M.C.

2d Prize Essay

MOST marines are familiar with the electrically operated spotting board employed aboard ship to teach spotters the fundamentals of their game. Having learned the mechanics of spotting, daily practice on the carefully scaled board keeps a spotter's eye "in" and his brain greased. This in turn means more hits per gun and more "E's" for the battery.

Following a tour of sea duty, I came down from Secondary Aft to go ashore. There I found myself in a howitzer outfit which somehow never seemed to be blessed with the time, space or weather to train.

With the memory of the spotting board still fresh in my mind it was but natural that I should experiment with a marine combat board. And I found one which worked. This combat board was designed originally for the training of a howitzer outfit equipped with 3-inch Stokes Trench Mortar and the 37mm. gun. Later on when I joined a rifle company I modified the board, as I will explain later, to train the company in all sorts of combat problems. As I look at it now from the perspective of several years of experiment the value of the board is amply told by its results. Likewise, its flexibility and possibilities seem limited only by the ingenuity of the operator.

The combat board is a method of training in miniature. That is the kernel of the idea. Well, you may say, what's new about that? How about the sand table and miniature mortar range? What advantages does the combat board possess over these systems? There are several answers. Two of them are exact scale and realism at all times. In addition the cost of a combat board is practically nothing. It can be set up anywhere—quickly—and the board is so flexible in idea and operation that it can be used by any Marine Corps outfit.

For instance, let us put a howitzer outfit and the combat board together with a little yeast of inquisitiveness and watch what happens. The combat board is first laid off on any flat surface such as a portion of ground or basement floor as follows. Please look at Diagram No. 1.

Select point A as marking the line of the observer's position. Sufficient space must be left in the rear of this point for the observer to take the prone position. Sufficient width must be available to mount gun or mortar and for crew to service same. At exactly 1,000 inches from A, lay off point B. Along construction line AB lay off BC, CD, BE, and EF equal to 100 inches. Through B draw construction line perpendicular to AB at B. Along this line on either side of B, lay off increments of 5 mils. (Increment of 5 mils at 1,000 inches, using the scale of 1 inch equals 1 yard, is 5 inches). Lay off similar increments on either side of points C,D,E, and F.

At C (900 yds.) 5 mils equals 4.5 inches.
At D (800 yds.) 5 mils equals 4.0 inches.
At E (1,100 yds.) 5 mils equals 5.5 inches.
At F (1,200 yds.) 5 mils equals 6.0 inches.

This completes the board for the 37mm. gun. Proceed now to lay out markings for the 3-inch Stokes Trench Mortar as follows: The scale for the mortar is 1 inch equals ½ yard. Thus, point B is at the range of 500 yards from the observer at point A. On either side of point B and just above the 37mm. gun scale, lay off small white dots at increments of 1 turn each. (Use the field thumb rule of 1 turn equals 8 yards. Each increment will equal 16 inches at B). Lay off similar increments at points C,D,E, and F. (One turn at any of these ranges will likewise be 8 yards which equals 16 inches). A short runway should be left behind point F for use of the operator of the board. Finish the scales by labelling ranges opposite points B,C,D,E,F and data opposite runway and in front of observers line as shown in Diagram No. 1. Construction lines are not marked or painted in. All letters, figures and marking in rear of point D should be distinct but small so as to be easily legible to the operator of the board but invisible to the prone observer at point A. This completes the scaling of the board. It may be used "as is" or if time and material are available a few terrain features carefully scaled may be constructed and placed on the board. Sand for hills, sponges for trees, toys for tanks, etc., are tricks of the trade all of us are familiar with.

Now in addition to scaling the board a *spotting stick* must be constructed. This consists essentially of a small light at the tip of a pointer. The materials used are a broom stick, flashlight, tape and magnet wire. The flashlight bulb is placed at the tip of the pointer, the flashlight case with contact at the other end. Bulb and switch are connected by magnet wire. The tape holds everything in place. On an outdoor board a light is not necessary. The tip of the pointer is simply painted white.

One other gadget remains to be built. This is the *angle of site reader.* This consists of two upright mil sticks graduated in mils. These sticks are set 1,000 inches apart (using a scale of 1 inch equals 1 yard, this interval is equivalent to 1,000 yards). The observer's station is at the midpoint between the mil sticks, i.e., 500 inches equals 500 yards. Each stick has a scale of mils 0—150 laid out on the side away from the observer (1 mil equals ½ inch since the observer is 500 inches away from each stick). An adjustable white mil marker slides on the mil stick and is visible to the observer.

The board is operated as follows:

(1) Direct Fire—37mm. Gun.

The observer takes his position at point A, Diagram No. 2. The platoon commander or trained NCO takes position beside him to check the observer's spotting. The observer adjusts his binoculars. On the floor in front of him as shown in Diagram No. 1 are the steps which he is to follow in his spotting.

The observer announces, "Ready."

The platoon commander or NCO designates a target on the spotting board, e.g., "Right front. Machine gun. Base of that lone tree."

The observer repeats, "Right front. Machine gun. Base of that lone tree."

Then the observer commences the outlined spotting procedure. He announces aloud so that the platoon commander or NCO can check him.

"Range to target—850. (Note that in this system of training, practice in actual range estimation is given, since distance and objects are to scale and appear as they actually would on the ground).

"1st. Reference point—Watertower—Right of target—25 mils—in rear of target—200 yards.

"2nd. Reference point—House—left of target—20 mils—in front of target—100 yards."

(In firing on stationary targets, the observer is trained

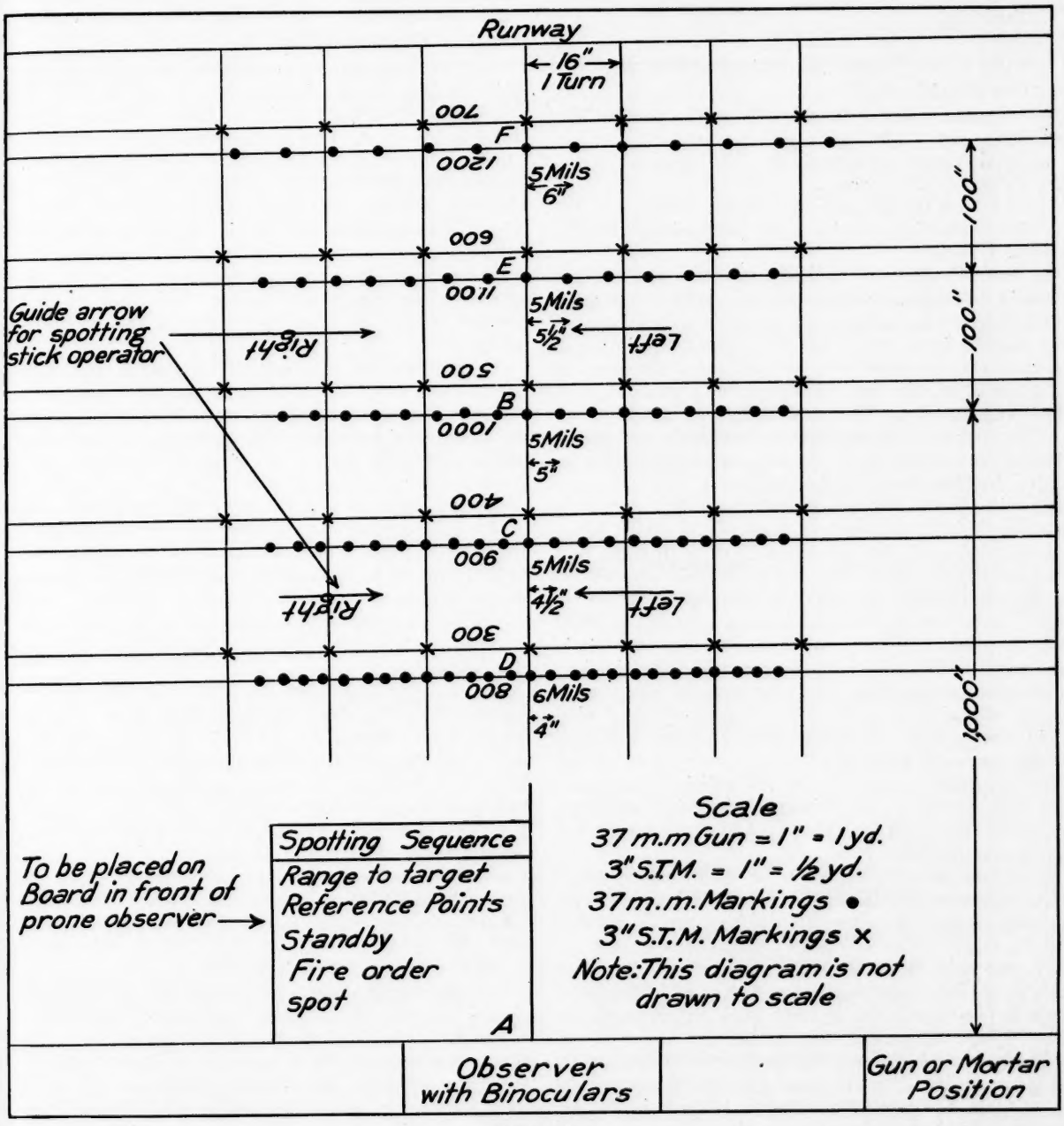

Diagram 1

in this system to rapidly select two reference points, one if only one is available, in respect to the target and through binoculars, card or eye to estimate the number of mils to the right or left and the number of yards in front or in rear, each reference point is located in respect to the target. This gives him a vivid mental picture of measurements in the spotting picture before him and enables him to quickly and accurately spot the center of impact onto the target even if the mil scale in binoculars or on range card is lost later during firing.)

"Standby." (Gunner repeats this order of, "Standby," coming from observer.)

"High explosive."

"Zero."

"850."

"Right front. Machine gun at base of lone tree."

"One round."

The gunner repeats the above fire order as it is being given.

The sightsetter repeats, "Zero. 850," and as soon as the sight dials are set announces, "SeT."

No. 1 loads the gun and says, "Ready One."

The gunner lays on the target and orders, "Fire."

No. 1 fires.

(Note. A sightsetter is used at all times on the 37mm. Gun in this training system. On this board and in actual field fire the rate and accuracy of fire is greatly increased by using a sightsetter. This is especially true in fire on a moving target such as an armored car. Observe also the similarity between the service of the 37mm. Gun here and that of the Navy broadside or AA gun.)

The spotting stick operator is standing in the runway behind the board with the spotting stick in hand. He has listened to the observer's fire order and pushes the spotting stick down the board and momentarily flicks on the spotting light to simulate the burst of the shell. Immediately afterwards, he withdraws the stick from the position where the light flashed. As a result, the observer has a momentary flash *only*, which he must spot onto the target. He follows the standard spotting procedure in bringing the point of impact onto the target. The stick can be so operated that the flashing light accurately simulates field conditions pointing out to the observer his errors in range estimation, deflection, estimation of effects of wind, light, time of flight (in case of moving targets) and error of the gunner in firing with his crosswires off the target. The lamp may occasionally be left unlighted even after the stick has been pushed into position, thus simulating a dud or shell burst invisible to the observer which often happens in the field.

Once the point of impact is brought onto the target the observer gives the order, "Five rounds." He is taught to make no spot thereafter unless at least two rounds drift off the target. (This allows for the gunner's error.)

Where room is available, the observer may be moved to a point to the right or left, and fore or aft of the center spotting point and the spotting stick so operated that he will have to calculate offset error.

Having finished his spotting the observer moves to point C (Diagram No. 2). The first sightsetter moves to point A to spot. Corresponding changes are made in the gun crew; each number moves up one place.

It can be seen that each man moves from one position to the next in rotation. All parts and phases of training are continuous; the basic principle of instruction, i.e., the two-man team of instructor and pupil, is employed; all hands are kept active and interested and maximum amount of training in the minimum time is attained. This is of particular value where periods of training are limited and continually interrupted. Once organized, the NCO's run the entire training themselves leaving the officer in charge free to move from point to point to check the operation of the entire system and ability of his men. It will also be found that the operation of the spotting stick teaches each man almost as much about fire control as he learns in the observer's position.

(2) Indirect Fire—37mm. Gun.

In indirect fire the observer takes his position first at point H, Diagram No. 2, where he measures angle of site. This is accomplished as follows. The mil sticks are set 1,000 inches apart. One is designated as the target; the other, the gun. A man is stationed behind each stick to operate the adjustable white marker on the mil scale. The observer takes his position midway between the two mil sticks. The adjustable marker is set at a point on each mil stick. The observer using binoculars, angle of site instrument or mil scale on range card determines the angle of site for the given marker setting. This angle of site is verified by the men operating the mil markers on the mil sticks.

The gun is set up at point F. The gunner is given range to mask and using line M as the crest of the mask, he determines the minimum range which he announces. The small metal pin painted with alternate red and white stripes and set in the top of the wooden aiming stake at point K is so placed in relation to line M as to appear as an aiming stake on a hill crest. This the gunner uses as his aiming point. A realistic indirect fire picture is thus afforded him.

Following his measurement of angle of site the observer moves to point A where he proceeds to spot the indirect fire of his gun. As in direct fire spotting he may be offset from the line of fire and be drilled in computation for this offset error.

This spotting board system is of especial value in training the 37mm. Gun crew for fire on rapidly moving targets. The car (to scale) used on the board is operated by three black threads. (Attach one thread aft and two threads forward on the car.) The rate of movement is scaled to actual ground speed. The observer is afforded training in time of flight calculation. He encounters a type of spotting most probable of contact in the field. The gunner learns how to train on and stay on a moving target and, in case of casualty to his observer, how to secure hits by offsetting his crosswires in respect to the target with last fire data set on his sights.

(3) 3-inch Stokes Trench Mortar.

The training of the mortar crew is similar but much simpler than that of the 37mm. Gun crew.

The mortar is set up in position F, Diagram No. 2. The aiming stake at point K is used as the aiming point for fire. The scale of 1 inch equals ½ yard and the corresponding graduations on the spotting board in yards and turns are employed for spotting practice. The observer

originally takes his position at point A and moves successively to spotting stick operator at point C (Diagram No. 2), arm and hand signals at points D and E, and last to the gun crew at F.

The observer uses the standard spotting doctrine as outlined in the training pamphlets. In the initial ranging fires he fires two rounds and spots the mean point of impact onto

(*Continued on page 73*)

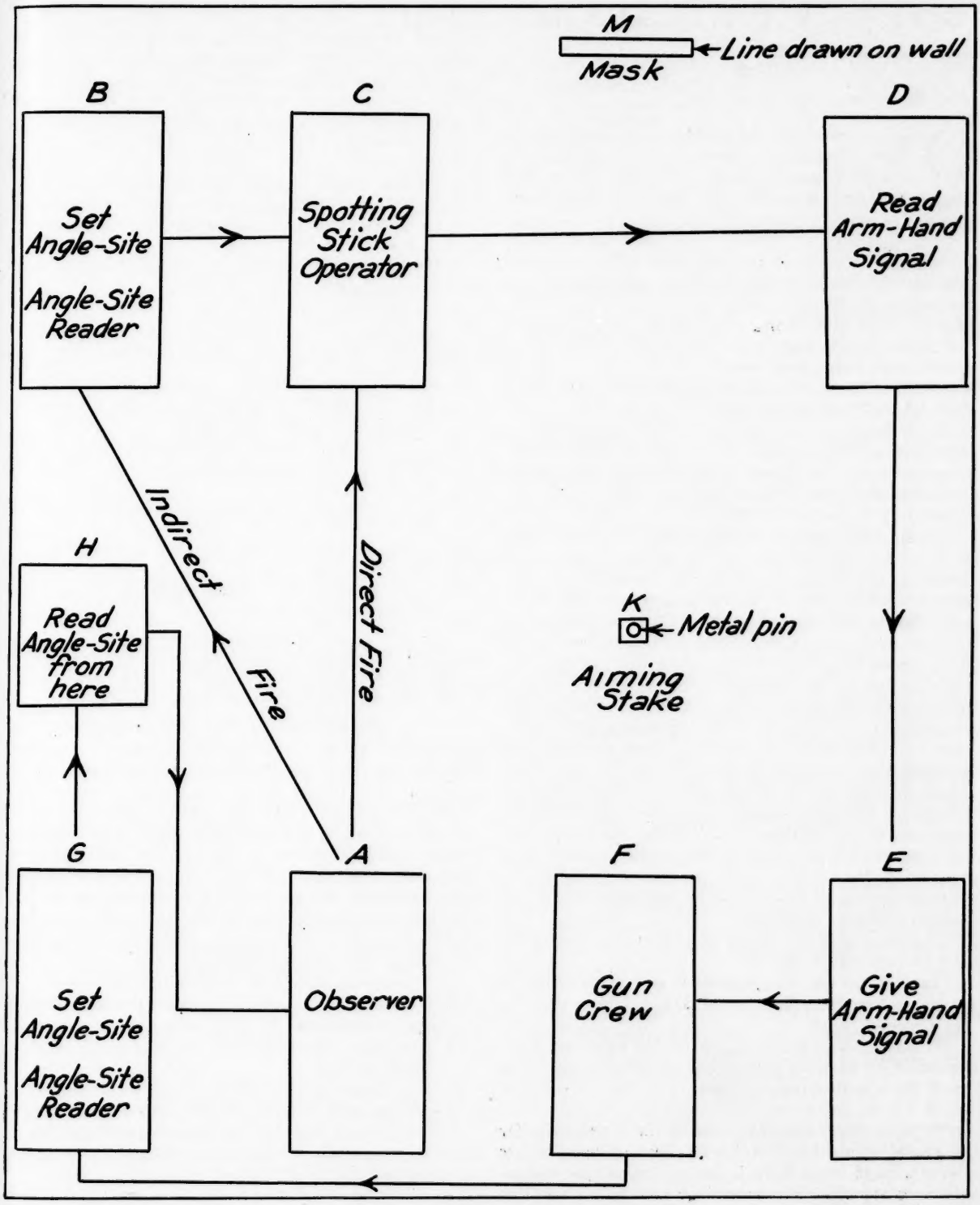

Diagram 2

CARDED

A Review of Camouflage Literature

By Lt. Col. W. P. T. Hill, U.S.M.C.

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ONLY recently has the subject of camouflage been treated to any extent in our military publications, so a short resume of the publications, both from our own and foreign sources, is thought to be most opportune at this time.

In the presentation of the review, all available sources of literature or information on camouflage will be reviewed because many of the articles, books or pamphlets are not available to the average student, so the review, as a whole, may also be considered as a bibliography on the subject.

Fundamentals or highlights, together with pertinent excerpts on the subject, are quoted verbatim from the different articles. For more detailed information on each article, the original should be consulted.

The reviewer has tried to be fair and unbiased in the short concise presentation of each source of information.

Common Sense in Camouflage Attack. Dr. Alister Mackenzie. *The Military Engineer,* Vol. XXVI, No. 148, July-August, 1934. Well illustrated.

A companion article to "Common Sense in Camouflage Defense" by the same author. Speaking of camouflage in attack, Dr. Mackenzie states "The purposes of these methods was to conceal the real preparations for the attack and by means of dummies, create the impression that an attack was intended elsewhere. If there are no flaws in the preparations, the enemy will naturally denude his lines at the apparently unthreatened points to meet what he thinks is the intended attack where dummy preparations are being made, so that even greater results than a surprise attack are obtained, as the defenders are persuaded to withdraw their troops in the sectors on which it is intended to break through. The greater the number of enemy air observers and their consequent deception with the resulting certainty that the enemy will be supplied with false information, which is worse than none at all, the greater will be the success of the attack. In other words, air observation becomes a menace to the defenders instead of a help.

"Dummy tracks increasing in number day by day are of vital importance. * * *

"Tank tracks are very significant and characteristic in an air photograph and an actual tank should be used for the purpose. * * *

"Dummy tracks, which are by far the most important means of creating an appearance of activity, should be made by wheelbarrows, wagons, brush harrows and so on. * * *

"It is extremely rare that any material is necessary for camouflage with the exception of simple things that are found around every farm house. It cannot be emphasized too strongly that camouflage is largely a question of brains and experience rather than material. * * *

"Under no circumstances whatever should sand bags be used for defenses, as they will always attract the enemy fire. They should only be used for dummies." * * *

Of the Dardanelles campaign: "Battleships fire shells having a low trajectory and it is impossible for the shells to do any damages to defenses that are not on the skylines or forward slopes; they are useless against hidden defenses. * * *

"The only hope of success is that the attackers have more knowledge of camouflage than the defending forces and are able to differentiate between the real and the false defenses. * * *

"Diagnosing the Defense: It is unlikely, however, that that defenses will be perfect, so that it is always possible that the attacking force will diagnose them. The British Intelligence Corps suggested that the following points might assist in discovering dummies:

1. The difference in shadow on the photographs taken by morning and evening light. This applies particularly to photographs taken at low elevations.
2. The absence of drains, machine guns and trenches; painted canvas does not produce shadow effects, it simply reflects light.
3. Earth of parapet and parados too narrow.
4. Dummy wire made in curves.
5. No gaps or tracks made through dummy wire.
6. Too rapid construction.
7. Snow photographs. This might be got over by maintenance parties."

Common Sense in Camouflage Defense. Dr. Alister Mackenzie, *The Military Engineer,* Vol. XXVI, No. 145, January-February, 1934. Well illustrated.

An exceptionally well written article discussing the fundamental principles of camouflage defense. Interesting excerpts from Dr. Mackenzie's article are as follows: "In the mind of the layman the word camouflage is often associated with paint. Paint and camouflaged materials issued by the camouflage parks in France were worse than useless, and it would have been better if their distribution had been discontinued and soldiers had been forced to rely on their own common sense. . . . Civilians take much more kindly to camouflage than regular soldiers. . . . There are four main principles in concealing men, trenches and guns.

1. The first is to destroy the familiar silhouette.
2. The second is to make the object you wish to hide indistinguishable in color from the surroundings.
3. The third principle is to make use of countershading.
4. The fourth principle is to divert the enemies' attention with dummies. In deceiving the airman and his camera, dummy fortifications, dummy tracks, dummy wire, et cetera, are perhaps the most important of all."

In deceiving the airman and his camera, Dr. Mackenzie says, "Track discipline and dummy tracks are of

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vital importance. . . . The interpreter of airplane photographs gets most of his information from tracks and it is the simplest matter in the world to deceive him as to their significance.

"History has proved time after time that one civilian who has had a few days' training in camouflage is worth ten soldiers who have had a life's training in the non-essentials of defensive warfare."

On the neglect of camouflage in peace the author says of this important neglect, "The dearth of articles on camouflage in military magazines is proof of its neglect."

CAMOUFLAGE IN RUSSIAN ARMY. Col. W. Kolossovsky, Russian General Staff. *The Military Engineer,* Vol. XVI, No. 86, March-April, 1924. Illustrated.

This article divides the field of camouflage into two fields—natural, scientific and technical camouflage. Under natural camouflage three ways are described for its use:

"1. The adaptation of the troops and buildings to local conditions such as local features of the landscape, shadows, colorings, light, time of day and weather.

"2. The adaptation of natural features for strategical and technical purposes, such as the use of cover, configuration of the land and locality.

"3. By maneuvers, extensive use of misleading movements and demonstrations."

Under scientific and technical camouflage the following groupings are given:

"1. Field scenery, the rapid construction with available material of all possible protective covering, masking, covering with netting, etc.

"2. Constructive camouflage of imitation buildings and the imitation of local natural objects.

"3. Painted camouflage, the rapid coloring of prominent marks and places on the ground and on buildings.

"4. Camouflage with vegetation, the planting and transplanting of trees, bushes and grass.

"5. Pyrotechnical camouflage, imitation of explosions, firings, conflagration and the production of smoke screens.

"6. Military 'making up'—the changing of natural appearances of faces."

The typical example of the camouflage of a battery and machine gun nest is explained and illustrated.

THE ART OF CAMOUFLAGING. Major M. E. Barker, C.W.S. *The Military Engineer,* Vol. XXIX, No. 165, May-June, 1937. Well illustrated.

This excellent short article stresses the natural laws of camouflage as applied by animals in nature and from a military standpoint in the field the use of whatever may be found readily available.

In summing up the situation for training Major Barker states "The following general rules may be taken as a guide in conducting training in camouflage:

(a) Bright metal, glass, white horses and reflecting surfaces must be covered or placed in a dense shade;
(b) straight lines and regular shape must be broken;
(c) camouflage materials must be of the same color and texture as the surroundings;
(d) distinct shadow lines must be avoided;
(e) tire marks and paths leading to unit positions must be obliterated or covered; and
(f) movement must be avoided."

CAMOUFLAGE. Encyclopedia Britannica, Vol. 4, p. 670, 14th Edition.

A short history of the subject both from a military and naval viewpoint. The military section covers protection against air observation, shadows, regularity, summary, material and production, protection against direct observation, and miscellaneous application. The naval section covers object, application, coloration, and extension of use.

FORTIFICATION—CAMOUFLAGE FOR ALL ARMS. TR 195-40, June 15, 1926, Corps of Engineers, U.S.S. 36 figures and sketches.

Contains all the fundamentals of camouflage for all arms, including the theoretical principles and the detailed treatment of the elements and auxiliary works of a defensive position, as applicable to the concrete problems confronting the officer placed in charge of the concealment of a position or its elements.

General camouflage practice, specific camouflage practice, camouflage in open warfare and camouflage instruction are well covered in the space given to it.

ENGINEER FIELD MANUAL, Vol. II, MILITARY ENGINEERING (TENTATIVE), PART TWO—DEFENSIVE MEASURES. Prepared under the direction of the Chief of Engineers, 25 June, 1932. Well illustrated.

CHAPTER I, SECTION I

Covers the general principles, hostile observation, patterns, relative importance of camouflage requirements, and types of camouflage.

CHAPTER I, SECTION II

Covers reconnaissance, divided into the following subheads: use of aerial photographs, use of maps, local material, seasonal changes, reconnaissance and choice of positions.

CHAPTER I, SECTION III

Covers camouflage materials, erection of natural materials, snow camouflage, observation posts, cave shelters, communications, command posts, artillery dumps, camps, buildings in general, airdromes, camouflage in open warfare, and reference data.

EXPERIMENTS IN CAMOUFLAGE OF VEHICLES. Captain Peter Rodyenko, Eng. Res., 40th Engineers (Camouflage). *The Military Engineer,* Vol. XXX, No. 172, July-August, 1938. 4 illustrations.

The object of this article was to discuss the means for concealment of military vehicles were made the subject of experimentation and study during November by the Engineer Board at Fort Belvoir, Va., to which the writer had been detailed for temporary duty. The writer states "that the flat top cannot advantageously be

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used for the concealment of vehicles"; so devised ways or means to let the vehicles "look like something else" and it appears to him that a kit for hasty camouflage of vehicles should be carried on each truck just as a fire extinguisher is part of the equipment. The writer is of the opinion that such a package would be most effective in confusing the identity of a vehicle and preferable to other means which would require adherence to certain definite methods of construction.

CAMOUFLAGE FOR CONVOYS. Captain Peter Rodyenko, Eng. Res. *The Quartermaster Review,* Volume XVIII, No. 2, September-October, 1938. Illustrated.

One of the best articles on truck camouflage that Captain Rodyenko has issued to date. Gives the reasons that enable him to arrive at his conclusions. On painting of vehicles he states: "Many, when hearing the word 'camouflage,' think of the irregular painted polychronic effects that were used during the Great War." It is the definite belief of the author that this method is obsolete so far as aerial photography and visual observation from the air are concerned. "Painting will, under certain conditions, be advisable when only ground or (to use the argot of camouflage) lateral observation is to be expected. But it has been proved that the oil, which is used as a vehicle in most paints, has a tendency to give the painted objects a high reflecting capacity and the light falling on it will be reflected in such a manner as to show the object up so strongly that even an untrained reader of photographs would detect. Some European nations still stick to the method, but this writer is of the conviction that the same results, with much less effort, could be obtained if vehicles, etc., were painted with some neutral paint, like the olive drab as used in the U. S. Army, and then strewn with sand before drying, thereby reducing reflection of light." The author further states: "Another interesting fact known to the camoufleur is that the coloring of camouflage material has not much importance when aerial photographs are taken. The materials used in this experiment had been dyed a dark brown, using burnt umber ground in oil and thinned out with gasoline to insure a quick drying. However, it is very important to remember that, whatever colors are used for dyeing materials, it should be several shades darker than the surrounding terrain, and that neither blue nor yellow should be used, as both these colors have a tendency to register light on the photograph. Any kind of red, brown, green, or even lampblack may be used. The gasoline only helps to dry out the materials in a brief time, and also 'flattens' the colors and thus reduces any possible reflection of light." The remainder of the article describes the "camouflage kit" that he recommends for use in camouflaging motor vehicles, bringing into consideration the essential time element.

MANUAL OF CAMOUFLAGE—CONCEALMENT AND COVER OF TROOPS. William Kirby, Major, Inf. R. C. Edwin N. Appleton, Publishers, 1917.

Discusses the problem of camouflage under the headings: (1) Camouflage, (2) Concealment, and (3) Cover, with an Introductory Lecture on the Principles of Camouflage and Chapters on General Remarks and Notes on Camouflage and Suggested Method of Camouflage Instruction. The details of the text are mainly the best ideas for camouflage in vogue at the time.

CAMOUFLAGE FOR ANTI-AIRCRAFT ARTILLERY. Captain Peter Rodyenko, Eng. Res. *Coast Artillery Journal,* March-April, 1938. Illustrated.

"This paper deals only with the camouflage of anti-aircraft guns, machine guns, and their instruments as used in terrain similar to that of the United States." It describes the functions of the G.H.Q. Camouflage Battalion and the Army Camouflage Battalion.

Quoting Captain Rodyenko on painting: "The theory of painting for concealment or confusion which was quite popular during the last war has been virtually discarded, except for a few exceptions when only ocular and lateral observation is expected. Painting registers on a photograph because the media which have been treated with pigments reflect light differently from the surroundings which have not been treated. It has been found that the weird and irregular color designs which have become associated with the term 'camouflage' are virtually without value as the very same results can be obtained by using a neutral, dull or flat (not glossy) paint, which while wet has been strewn with sand or similar material so as not to absorb and not to reflect light. This, of course, does not refer to the 'dazzle-painting' or maving objects, such as vessels, armored cars, or tanks travelling at high speed or at long range. In these cases, there is an entirely different mission: that is, to deceive the observers with regards to the direction and speed of travel and to confuse them and throw them off the target."

The remainder of the article gives the technique how to actually camouflage anti-aircraft materiel. "Note page 148 (Coast Artillery Board Notes) carries an account of an experiment with camouflage nets lately conducted by the Coast Artillery Board.—Editor."

CAMOUFLAGE, ITS HISTORY AND APPLICATION TO CAVALRY. Lieutenant Robert W. Cole, Jr., 8th Cavalry. *The Cavalry Journal,* Volume XLVII, No. 5, September-October, 1938. Illustrated.

The author gives a short history of camouflage and states "the use of brush and foliage is the most common type of battlefield camouflage. When properly placed and kept fresh, this covering is very effective, especially when used in conjunction with a garland net to hold the bushes upright. A spotted camouflage is excellent to break up outlines, as in the case of a large gun or some other object difficult to conceal because of its size and shape. This trim, usually consisting of a variegated coat of leopard-like spots, destroys the sharp lines and angles so that, at a distance, the fixtures blend into the surrounding terrain and lose their identity as objects of military importance. Tanks are usually painted with a neutral background or in primary colors, which merge into grey when seen from afar. Without camouflage, both the tank and the machine gun would cease to occupy their relative importance, as if either one is once located, the chances are that it will be put out of action."

The article further relates the preparation for the

Sikorsky Plane—Men and Gear ready for Photo Flight.

tests, the technique in the use of garlands and nets in the camouflage of a scout car, a truck, and two machine guns. The cooperation of an airplane and an observer, via radio communication, assisted in the tests, quoting therefrom: "For it was not until the plane had descended from 10,000′ to 3,000′ that they were able to pick out any suspicious objects. And only when the observers had circled the area at 500′ were these objects definitely identified as the camouflaged materiel.

"The results of the tests seemed to evidence the need of study in the art of camouflaging cavalry materiel and the opportunity in the training year to put into practice the knowledge acquired."

In describing the camouflaging tests recently conducted by the 1st Cavalry Division, with the various shapes and sizes of nets to determine their effectiveness and suitability as the best means of camouflaging cavalry materiel, the article comes to the conclusion that "it was proved that nets were the most satisfactory and effective."

ARMY ENGINEERING. Lt. Col. Wm. A. Mitchell, U. S. Army, Professor of Civil and Military Engineering, United States Military Academy. Published by the Society of American Military Engineers, the Mills Building, Washington, D. C.

Chapter III of this publication is devoted to Camouflage, and covers the following on the subject Deception, Observation, Necessity of Camouflage, Patterns, Instruction in Camouflage, Need for Instruction, Choice of Position, Relative Importance of Camouflage, Requirement, Reconnaissance and Choice of Position, Camouflage Discipline; Materials, Camouflage Materials, Colors, Camouflage Materials Required for Certain Jobs, Details of Camouflage, Barbed Wire, Machine Guns, O.P.'s and C.P.'s, Tanks, Defensive Lines, Supply Depots, Telegraph and Telephone Lines, Roads, Camps, Snow Camouflage, Dummy Positions, and Seacoast Batteries; Effectiveness of Camouflage in a most thorough manner.

ENTRENCHMENTS AND CAMOUFLAGE. Professional Memoirs, Corps of Engineers, U. S. A., and Engineer Department at Large, Vol. IX, No. 47, September-October, 1937. Lecture by a British officer skilled in landscape gardening. Well illustrated with photographs and sketches.

A most detailed description of the application of the principles of camouflage to entrenchments and trench warfare, as applied by the British. His minute descriptions are most interesting in showing how the principles and practices of camouflage were arrived at during the early years of the World War.

CAMOUFLAGE AND COVER. *Royal Army Ordnance Corps Gazette,* Vol. XIX, No. 224, September, 1938.

Speaking of late training in the British army: "Skillful use of natural cover remains, however, the primary means of concealment. Camouflage devices, it is held, can never be good substitutes for the cover afforded by nature, though when on the move artificial methods are essential. * * *

"The two chief methods of field camouflage were the special equipment, such as nets and garnishing, to cover the individual weapons and the disruptive painting of weapons and vehicles. For the individual soldier the

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most suitable covering was thought to be his ground sheet. The anti-gas cape has now largely replaced the ground sheet, and experiments have been made in camouflaging the cape with paint, while not reducing its anti-gas protection, nor preventing its decontamination. * * * One of the most effective means of individual camouflage was the steel helmet cover made of rough Hessian canvas, colored green and brown in irregular patches. Loops of painted canvas sewn over the cover were used for the insertion of foliage. Machine guns and anti-tank guns had for cover a spider frame with central telescopic support and garnishing."

WORK THAT IS NOT IN TEXT BOOKS. Colonel Garforth, D.S.O., M.C. (British Army).

The records of three actual experiences related by the author in the construction and use of screens, portable bombs, and floating mines, all used successfully by the author during the World War.

AIR POWER AND TROOP MOVEMENT. Major Thomas R. Phillips, C.A.C., U.S.A. *Infantry Journal,* Vol. XLV, No. 3, May-June, 1938. Illustrated.

Covers the detection of Camouflaged and other vehicles by the use of air observation and their efforts to hide them. Sums up how "to nullify an air threat." The limitation of aerial observation and attack furnish the clue to avoidance of aerial danger. The methods by which attack can be avoided are three:

1. Avoid discovery by concealment, camouflage and dispersion, both in bivouac and on the march.
2. Take advantage of the time delay factor of air attack by speed and movement.
3. Discontinue marching in target formation, i.e., disperse on the march as on the field of battle.

ENGINEER FIELD NOTES. Issued by the Chief Engineer, A.E.F., 1918. No. 22. Field Fortification No. 9.

Approved by the C. in C., A.E.F., 6 June, 1918, and containing general instructions on camouflage under the following headings: Camouflage, Detection, Execution, Dummy positions, Principles of, Colors, Practice of, Artillery Positions, Machine Gun Positions, Observation Posts, Trenches and Accessory Works, Camps, Cantonments and Bivouacs, "Chinese Attacks" and Camouflage Materials.

THE PRINCIPLE AND PRACTICE OF CAMOUFLAGE. Issued by the General Staff, H.M.S., England. Illustrated.

General and Special Instructions issued by the British General Staff during the World War covering the Principles and Practice of Camouflage as applicable to the World War. The Principles are covered under the headings of The Ideal, Location of Positions, Aeroplane Photographs, Concealment and summary of principles. The Practice of Camouflage is covered under the following headings: Use, Camouflage of Heavy Guns, Observation Posts and Miscellaneous. Camouflage demands is covered under Instructions and Materials Stocked at Corps Camouflage Dumps, for Concealment of Field Works, O.P.'s, Snipers' Requisites, Machine Gun Corps and Materials in Stock at Factories such as "Chinese attack" figures, silhouettes, observation trees, periscopes, screens, etc. The illustrations show the different materials in store at the dumps and Factories.

IMPRESSIONS AND EXPERIENCES OF THE WAR IN SPAIN. Captain Ed. Bauer. *Revue Militaire Suisse,* February, 1938, 83d year, No. 2, page 90. Translated from the above publication.

"Camouflage has become a matter of routine. Everywhere we have seen it practiced with great ingenuity, and it seems that the initiative is taken without being pushed by superiors. Between Grado and Oviedo there were, it seems, some forty batteries in position, and yet we didn't see but two or three pieces. There are, of course, little errors here and there that have to be taken care of, such as the one of the excellent Sergeant-Major, for example, who, after having painstakingly camouflaged his anti-aircraft guns and carts,. had his men spread their shirts outside the camouflaged area, in sunshine, so as to let them dry after this hard labor."

AVIATION CAMOUFLAGE. Army Extension Courses.

Covers camouflage of the different types of aircraft for day and night flying in different seasons, concealment of airdromes, airdrome camouflage, use of dummy airdromes, and the relation of aerial photographs to camouflage analysis.

"Unlike other forms of military camouflage, it is vital in aviation camouflage that equal consideration be given not only to blending the appearance of the aircraft with its background when viewed from above, but when viewed from underneath or from the side as well. It has been found that a combination of tan, blue-green and mauve-purple when applied to the top surfaces of aircraft seems to accomplish the best known results. The tan blends with the plowed fields, roads, and freshly cultivated lands. The blue-green blends with patches of woods and forests as well as fields of growing crops in the spring and early summer. The mauve-purple, being a color of low visibility, blends readily with shadows and moist lands after rains. In general, the scheme followed is to divide the surfaces into three irregular areas of large curving boundaries, apply these three colors to the upper surfaces of the top wing, the upper surface of the lower wing and along the top of the fuselage to include the top surfaces of the tail assembly. This treatment of the top surfaces does not render the airplane invisible, but it does tend to break up the normal appearance of the aircraft to the extent that when seen from above, against the earth as a background, it becomes increasingly difficult, at normal altitudes, to determine the exact outline of the aircraft, its type, and the course flown. Against snow covered background, or over the sea, special preparations must be made.

"When viewed from the ground, aircraft presents a solid silhouette against the sky, hence, in order to decrease normal visibility, color combinations of burnished aluminum or aluminum leaf, light blue, light purple, and white are used. The aluminum brightens the under surfaces of the wings and when combined with white, reflects a considerable amount of sky and decreases, mate-

(*Continued on page 66*)

CARDED

Let's Improve Our Examinations!

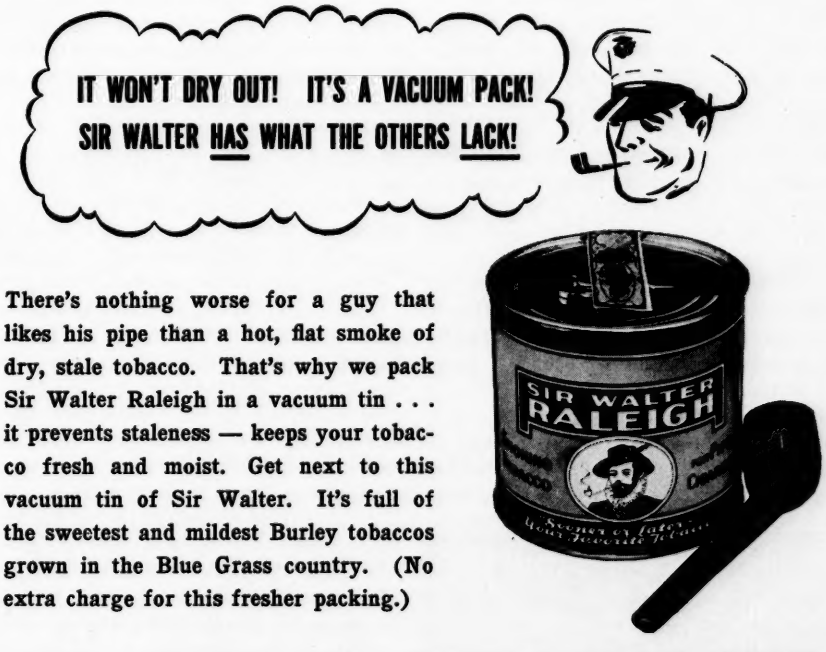
By 2nd Lieut. L. Maurice Mason, U.S.M.C.

3d Prize Essay

"THE following men will report to Lieut. Blank at 9:00 a.m., for examination for promotion to next higher rank." This notice has been the approach march to the Waterloo of many a good soldier. How many times have you thought, "Joe Gish is doing a Corporal's duties and doing a good job of it. I'd like to give him the rank but he has failed two examinations already"? If you have never had this experience you have undoubtedly had the similar feeling of being sadly disappointed by the showing some of your "hopefuls" made on written examinations. The reason for this is usually obvious—the man can't put on paper what he thinks in his head. A large percentage of the men in the Marine Corps have gone no farther than one or two years in High School and many have never gone as far as that. With the exception of a few High School English papers they have never done any writing and have had little or no experience in expressing themselves on paper. Their experience in taking examinations is limited. This is the material we have to examine for promotion, at different intervals.

Now how do we go about examining this material? An examining board, giving consideration to the time available to write the examination, makes up a series of questions to test the candidate's knowledge. I can't believe that the vast majority of Marine Corps officers have inert minds, yet whether one member writes all of the questions or whether each member of the board has a share in the question making, each individual officer usually has the same ideas as to the type of questions used. This is the essay type question. Candidates are asked to "describe," "discuss," "tell" or "explain," drill movements, march formations, operation of weapons and any other phase under examination. An examination of this sort is unjust to both the Marine and the Marine Corps.

It is unjust to the Marine because it puts too much accent on a person's ability to express himself on paper.



There's nothing worse for a guy that likes his pipe than a hot, flat smoke of dry, stale tobacco. That's why we pack Sir Walter Raleigh in a vacuum tin . . . it prevents staleness — keeps your tobacco fresh and moist. Get next to this vacuum tin of Sir Walter. It's full of the sweetest and mildest Burley tobaccos grown in the Blue Grass country. (No extra charge for this fresher packing.)

BROWN & WILLIAMSON TOBACCO CORPORATION, LOUISVILLE, KENTUCKY

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Many men know the factual knowledge but are not accomplished in a literary sense. In their attempt to make their answer sound correct they often leave out facts or twist facts into answers which leads the examiner to believe the writer does not know the correct answer when in reality he does. The basic requirement of an enlisted Marine below the 3rd pay grade is soldierly knowledge, which will result in combat efficiency. If he knows his military job, what difference does it make if he cannot write an impressive manuscript?

This type of examination is unjust to the Marine Corps because the full letter of M.C.O. No. 146 cannot be carried out. With essay type questions it is very impracticable to ask a question on each phase of training—to do so would mean that for promotion to Sergeant thirty-one questions would have to be given if only one question was allotted to each phase listed in M.C.O. No. 146. How can an examiner know that a man possesses "a familiarity with and a knowledge of," say, the automatic rifle, by asking him one question? Everyone agrees that the soldier should know the manual of arms, nomenclature, field stripping and assemblying, functioning and stoppages and care and cleaning of the B.A.R. If we ask a conventional essay type question on each division of B.A.R. training we have used at least five questions and there are thirty other phases of training to quiz a Sergeant on and nineteen more phases to quiz a Private First Class on, that are just as important as the B.A.R. The required field of training cannot be covered by asking one essay type question on each phase of training and to ask more than one question will make the examination too long to keep interest sustained. This difficulty is usually overcome by decreasing the field of subjects covered. This custom is undesirable and works an injustice on both the Marine and the Service. In a decreased field there is the possibility of the top ranking man being the man who had by chance studied only the phases of training covered by the questions asked. A man of average ability in all phases of soldiering is more valuable than a man who has exceptional ability in only a few phases and is deficient in others.

Another fault with the essay type question is the burden it puts on the examining board to efficiently correct the papers. No officer looks forward to reading thirty or forty examination papers each written in an individual and oft times mystifying style of handwriting. True that is one of the officer's duties, but isn't his time too valuable to be spent in trying to make out whether a man meant a scrawl for an "M" or for "RR." Reading the answers to two hundred questions (20 men—10 questions each) is not a pleasant task even when divided among the examining board members. An essay type question is hard to grade accurately. The answer can be anywhere from partly correct to slightly in error and it is the examiner's duty to decide how near each answer comes to the correct solution. Individual officers vary in this respect when only a few papers are graded. When the number of papers is increased this error increases proportionally. When a large number of papers are graded at one sitting the first paper and last paper corrected have been judged in quite different lights. The examiner's opinion has been influenced by the answers given on other papers and by mental fatigue. Again the Marine suffers from an unjust examination.

How can we overcome these faults and better our examinations? Just recently I was senior member of a three-member examining board ordered to examine for promotion—31 privates, 11 privates first class and 8 corporals at the U. S. Naval Prison, Portsmouth, N. H. I am going to discuss these examinations as an example of improved examination procedure because they represent a real test case that gave satisfying results.

When I first learned I had to examine 50 men for promotion my first thought was a purely personal one. "Oh, fifty exams to give and fifty papers to correct." Next I began to realize how much the examination meant to each Marine.

My personal thoughts soon disappeared when these realizations began to come to me. When a Marine comes out of "boot" camp he is 100% soldier. He is disciplined, full of ambition and very anxious to get ahead in the service. He is in a state of being from which he can readily be made a valuable member of our military service. Nevertheless, from the experience standpoint this man is still a raw recruit who has probably received several disillusions and disappointments in his transfer from "boot" camp to garrison duty.

Other men who have a little service have taken on dependents in spite of what the Marine Corps Manual says. An increase in pay means a great deal to them. I recently saw a private, who the week before had announced the birth of his first child, right after he had been informed that he had made private first class. His whole body was radiating joy and happiness—and why not? The $9.00 increase was almost a 50% raise in pay for him and he could well use every penny. Of course we do not want to encourage marriage for the lower ranks nor do we want to emphasize only the monetary gains of advancement. However, if a man is desirous enough of increased pay to put forth great effort to learn all he can about his duties so he can advance aren't we accomplishing our training mission?

Some of the single men with service have decided to make the Marine Corps their career. They like the life and want to progress in it. All three of these classes of enlisted man can have their spirits broken by the haphazard method of examination often used. We want to promote the best men we have and any injustice worked on these men is to the disadvantage of the service. A Marine with a broken spirit has but one thing in mind—getting out of the service. If his date of discharge is far off he may be tempted to desert. More than 50% of the Marines in the Prison at Portsmouth are deserters. Contented men do not desert and discontented men will not reenlist or extend their enlistments. How great would the combat efficiency of a squad be that had two discontented men in it? A fair and just examination will keep them contented in this respect. A man may be disappointed but he will hold no greviances if he does not know the answer to a fair and reasonable question. He might be angry with himself but not with the service. If the questions are clear, logical questions that do not contain trickery or do not call for detail knowledge of some relatively unimportant phase of training the men

will be satisfied with the examination. Too many examinations have been given that consisted of the first five questions that came to the examining officer's mind. Examination must be planned and must receive considerable forethought to be fair.

As soon as I began thinking what to ask the 50 men I had to examine, all the faults of essay type questions began to come to mind. I decided to bend all efforts on an examination which would:

(1) test the factual knowledge of each candidate
(2) cover all phases of training required for each as listed in M.C.O. No. 146
(3) require a reasonable amount of time to complete
(4) not be too great a burden for the examining board to correct.
(5) be equally fair and just to all candidates.

The resulting examination was given before M.C.O. No. 146 was issued thus the frequent reference to M.C.O. No. 113.

The general plan was to take three days to complete the examinations. The first day, privates, privates first class and corporals were asked questions confined to phases of training listed in para. 3 of M.C.O. No. 113. This completed the examination of privates. The second day privates first class and corporals were asked questions confined to para. 4 M.C.O. No. 113. This completed the private first class examination, i.e., first day's questions plus second day's question. The third day the corporals were given a final group of questions confined to para. 5 of M.C.O. No. 113.

In the first day with a series of five questions I found out to what degree each man possessed "a familiarity with and a knowledge of" EACH of the phases listed in para. 3 of M.C.O. No. 113. You wonder how I did that with five questions? Here was my first question:

On your answer paper list the capital letters "A" through "T." These represent the phrases in the right column. After each letter write the number of the phrase in the left column that matches or pertains to that phrase in the right column.

1.—B.A.R.	A Keep off the skyline
	B Right front into line
2.—Close Order Drill	C Squad columns
	D Safety lever
3.—Rifle	E Tourniquet
	F Bullet tube
4.—The pack	G Adjusting strap
	H Stacking swivel
5.—V.B. Rifle Grenade	I Barrel bushing
	J Gas ports
6.—First Aid	K Striker
	L Windage Screw
7.—Hand Grenade	M Slide
	N Magazine catch
8.—Extended Order	O Follower
	P Change lever
9.—Pistol	Q Assemble, march
	R Creeping
10.—Scouting	S Link
	T Hemorrhage

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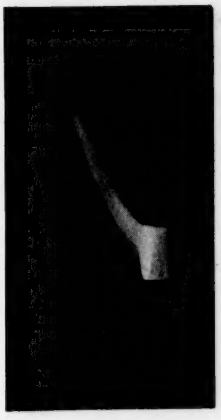

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(Note) Some letters may have more than one number after them.

In this question twenty-five points were brought out in ten of the required fields of training. In the other four questions the remaining seven fields of training were covered plus additional questions on the above other fields.

The other questions were of the same type. They were questions which called for factual knowledge and which could be answered quickly and in very few words. There was a "multiple choice" question which gave ten statements similar to this:

"A Marine should always salute an officer—

(a) when in mess hall
(b) when on the street
(c) when working
(d) when chasing prisoners."

To answer this the candidate decided which phrase would make the statement correct and then wrote the letter designating that phrase on his answer paper. With one letter, the letter "b" in this case, the candidate showed his familiarity with one phase of military courtesy. Remember these questions were written primarily for privates and constituted all of the written examination for promotion to private first class.

There was a "cross-out" question containing ten parts similar to this:

"If a man has a cut on his thigh spurting bright red blood you know (an artery—a large vein—many capillaries) has been cut and you will apply a (sling—adjusting strap—tourniquet) to the leg (above—over—below) the cut."

In answering this question the candidates were instructed to read the question, cross out the incorrect words and then reread the whole question. When satisfied it was correct they were to write on their answer paper only the words remaining in the parenthesis. The answer to this question was "artery, tourniquet, above." Here in three words the private could prove that he knew the symptoms of arterial bleeding, how to stop it and where to place the tourniquet.

There was a "fill in" or "completion" question of 10 statements similar to:

"In a squad the —— and —— must always be immediately replaced when casualties."

Here by filling in two blanks with the names of squad members the candidate gives the examiner a fair idea of his conception of squad organization and the relative importance of its members. Although the answer paper will show only four words, "squad leader," "automatic rifleman," the candidate has still had to go through a thinking process. However, his thoughts are all directed towards solving the military problem and he does not have to concern himself with how his answer will sound on the paper and wonder if the examiner will understand what he means to say.

The last question consisted of ten true or false statements. This type question can be used to good advantage in finding out how much a man knows providing the statements are carefully made up. Here the necessity of officer intelligence is apparent. These statements should not be obviously true or false but should cause the candidate to think and use the military knowledge he possesses. Here are a true statement and a false statement which would cause one to recall the principles of scouting before answering:

"As a scout wishing to rest for a long time at night I would choose high ground so that approaching persons could be seen more readily."

"A good scouting trick is to set fire to grass in one place while observing from another."

A fault some officers claim for this type of question is that it does not really test one's knowledge. A child who knew nothing about the question could answer 100 of these questions and by the law of averages get approximately 50 correct answers and 50 incorrect answers. So they say that if a Marine actually knew 15% of the answers he could correctly guess enough more to get 65% of them right and thus pass the examination. True, one can get 50% by guessing, but this element of chance can be eliminated if one uses the proper method of grading the papers. Caution the candidates beforehand not to guess at the answers. Tell them that for every incorrect answer they give they will lose the credit for one statement correctly answered. Explain to them that it is wiser to leave a statement unanswered than it is to guess at the answer. If you don't feel you can impress them in any other way, explain how you are going to mark the answers to the true and false question. To eliminate this chance element you determine the grade of the question by subtracting the wrong answers from the right answers. If a candidate knows 70 out of 100 true or false statements and guesses at the remaining 30 he has an even chance of getting 15 of them right and 15 of them wrong. Although his answer sheet will then show 85 correct answers this is not a true representation of his knowledge. Now if we subtract the 15 incorrect answers from the 85 correct we get back to the number 70 upon which to base his grade —this is the number the candidate had correctly answered before he started guessing. If the candidate guessed at 100 of these statements he would get about 50 right and 50 wrong, which would give him a mark of zero—a true representation of his knowledge of the statements.

Another type of question that falls in this class but not used in this examination is the asking for sketches or diagrams. Troop and march formations can be diagrammed, clothing layouts can be sketched and other fields lend themselves to this type of question.

In order to get the desired uniform answer sheets the examiner must devote a few minutes prior to the examination to instructing the candidates on how to write their answers. This should be done after the questions have been presented to the men. Any questions regarding the examination questions should be cleared up at this time for the benefit of all hands.

Notice that all of these questions require:

(1) little writing on the part of the Marine (decreases the literary factor and stresses factual knowledge)
(2) short answers (reduces examiner's correction burden)

(3) short time to answer (enables large field to be covered in relatively short period)

(4) positive answer (eliminates examiner's opinion, answer is either right or wrong).

Although this type of examination is more just to the Marine and the service it does not lighten the burden of the examining board. Instead of being burdened with the dull, boresome task of grading papers, officers must put forth great efforts prior to the examination in composing the questions to be asked. This type of work requires officer intelligence and training much more than the job of distinguishing M's from double R's in correcting long answer papers. The conceiving and composing of the questions is the most important factor in any examination and is a factor which is too often taken too lightly by examiners. In this new type examination considerable time and thought must be devoted to composing the examination.

In making up the questions for the examination I gave, I considered the publications available to the men who were to answer the questions. Keeping in mind the short experience and limited training publications available to privates I made certain that all of the answers for the first day's examination, taken by all privates, privates first class and corporals could be found in "The Marine's Handbook." This book had been available to every one of the candidates, and had been used to supplement regular school periods. This made the first day's questions rather easy for the privates first class and corporals but gave the privates a good examination. It was a fair check—at least better than no check at all—on the knowledge of the privates first class and corporals in the "elements of soldiering." The privates first class received their more difficult questions the second day and even the corporals felt the pinch of these questions. The last day's questions were for the corporals and were of non-commissioned officer calibre.

By the third day the corporals had left only four phases of training to be examined on. (Para. 5, M.C.O. No. 113). This examination could be of essay type because we had already tested their factual knowledge, there were only four phases to cover, a general question would show their knowledge of each of these phases and with only eight candidates there would not be many papers to correct, besides it is not a handicap for a sergeant to be able to express himself on paper.

This discussion so far has been concerned only with the written professional examination. One of the other factors to consider in promotion is the candidate's practical ability. In order that this examining board would judge the candidates upon the same points I composed an outline for them to cover with each candidate. A copy of this outline was tacked to a cardboard and given to each member of the examining board along with a rating slip for each man. The outline and rating slip are reproduced on next page:

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METHOD OF DETERMINING THE "PRACTICAL" COEFFICIENT FOR A MAN UP FOR PROMOTION.

1. Bearing before troops:
   (a) Is he self-conscious, fussed, excited, confused?
   (b) What opinion do you form by observing only his actions?

   Possible 20%

   YOUR RATE:

2. Commands:
   (a) Correct command?
   (b) Loud enough to be heard by all?
   (c) Mouth towards troops?
   (d) Correctly given?
      (1) Rising inflection—
      (2) Sufficient time between preparatory command and command of execution?
      (3) Command of execution short and sharply accented?

   Possible 20%
   YOUR RATE:

3. Ability to solve problems with men:
   (a) Correctness of solution—
   (b) Simplicity of solution—
   (c) Speed in estimating situation and giving order—
   (d) Does he think before he acts?
   (e) Rely on subordinates too much?

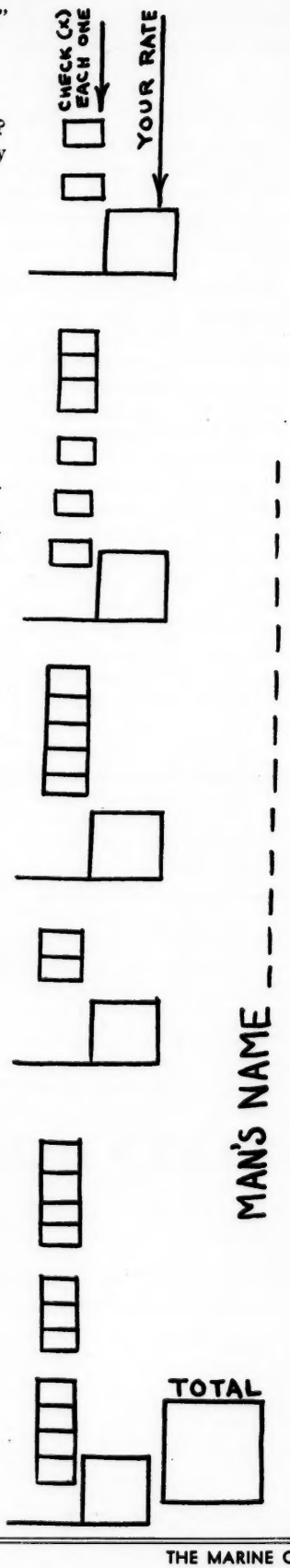
   Possible 20%
   YOUR RATE:

4. Force:
   (a) Is he sure of himself?
   (b) Sufficient determination to influence others?

   Possible 20%
   YOUR RATE:

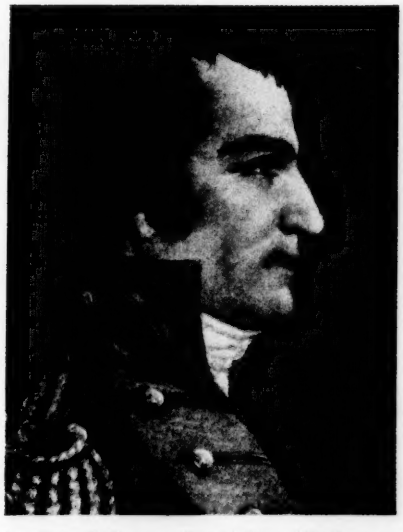
5. Personal appearance:
   (a) Uniform—
      (1) Worn correctly?
      (2) Pressed? Clean?
      (3) Neat collar and tie arrangement?
      (4) Shoes shined? Heels run over?
   (b) Personal
      (1) Haircut
      (2) Shave
      (3) Clean body
   (c) General—
      (1) Posture
      (2) Handling of rifle
      (3) Saluting
   (d) Are you impressed by man's appearance alone?

   Possible 20%
   YOUR RATE:



Each candidate was given the same series of problems involving the handling of men. They solved these problems individually on the drill ground with men as subjects. The rating slip was clipped to the right edge of the outline and the examiner checked each section of all the paragraphs in the box opposite the section. A man's practical coefficient was determined by averaging the grades turned in by each of the three examiners.

The examinations given by this board were far from perfect. Some flaws were brought out during the examination and other improvements have come to mind since but I do believe it was a step towards better examinations. The results of these examinations were very satisfactory to the examining board, the Commanding Officer and the men who took them. Other examining boards can get just as satisfying results if they follow a similar procedure. After all, isn't that what is desired—men satisfied enough by the training program and procedure to want to learn more about soldiering duties so they can advance in rank? With modern "material" means of war, a decisive superiority in combat rests heavily on the personnel. Only by following the best possible means of training can we hope to accomplish this.



Lt. Colonel Commandant William W. Burrows, First Commandant, U.S.M.C.

The Acting Secretary of the Navy has announced that the Transports SANTA RITA and SOUTHERN CROSS have been renamed the *William Ward Burrows* and *Franklin Wharton,* in honor of the First and Second Commandants of the U. S. Marine Corps.

"The Marine Corps has great traditions, and is proud of them, as it should be. But it does not forget the obligation great tradition implies: That is, to be, each man in his day and generation, equal to, and worthy of the past."—From an address by Maj. Gen. Commandant Thomas Holcomb, USMC., 9 Nov., 1938.

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"To be Prepared for War is One of the Most Effectual Means of Preserving Peace."—*Washington, Speech to Congress, 8 January, 1790.*

A Marine Gun Crew manning a five-inch, 25 calibre gun at short range Battle Practice.

"The Best Protection Against the Enemy's Fire is a Well-Directed Fire From Our Own Guns."—*Admiral Farragut.*

94th Anniversary of the Founding of

U. S. NAVAL ACADEMY

By Mr. John A. Croghan

THE 10th of October, 1939, commemorates the 94th anniversary of the founding of the United States Naval Academy. Now removed by the span of almost a century from the days when its value was questionable in the minds of those earlier naval officers who were trained entirely on shipboard, we clearly recognize that its creation in 1845 filled a lacuna in our national defense scheme which was even in that day prejudicial to that system.

With the long anticipated war in Europe at last a grim reality, the maintenance by this country of a great navy at the highest stage of efficiency is increasingly imperative.

If we compare the Navy with a human entity of many composite parts, then the ships, the shore stations, and the other material elements are the various physical units of the body which, well preserved and properly nurtured, are prepared to confront an enemy. But these alone would not suffice to win a naval engagement or a war. There must be a soul, a spirit to drive the corporeal forces. The Naval Academy is the matrix in which that spirit is conceived, where it is moulded, and finally is crystallized.

Of course we had a Navy, and perforce a strong and glorious naval tradition, long prior to the year of the Academy's founding. The first midshipmen who reported to Superintendent Buchanan were doubtless well versed in the exploits of the immortal Jones, the brisk actions with the Algerine pirates, and the chiaroscuro of our naval fortunes against England in the War of 1812.

Hence, the inception of the Naval Academy was chiefly a metamorphosis in our policy of training officers, and did not represent the first effort at affording instruction for midshipmen, inasmuch as we shall see from the following brief historical sketch that Congress had previously attempted various methods of imparting such instruction. Thus it was that the students of the new naval school, to use a phrase familiar in the law of contracts, "incorporated by reference" the custom and tradition passed on by their sea-going colleagues.

The striking observation of Sir Walter Scott in *"Guy Mannering"* to the effect that "a lawyer without history or literature is a mechanic" may have influenced the fathers of our present system of naval education to reason by analogy that an officer trained entirely at sea could never attain the exacting standard of excellence defined by John Paul Jones in his important letter to the Marine Committee of the Continental Congress in September of 1775.

But long before Sir Walter had established his primacy in the field of the historical novel, the seed of the idea to provide a school for the Navy had been planted.

(*Continued on page* 51)

THE PAUSE THAT REFRESHES

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Marine Corps Selections

DEPARTMENT OF THE NAVY
Washington, D. C., October 18, 1939.

From: The Acting Secretary of the Navy.

To: Major General Louis McC. Little, U. S. Marine Corps.

Subject: Precept convening selection board for the recommendation of marine officers for promotion to the rank of lieutenant colonel, U. S. Marine Corps.

1. A selection board is hereby appointed, consisting of yourself as president, and the following additional members:

Colonel Samuel M. Harrington, U. S. Marine Corps,
Colonel Roy S. Geiger, U. S. Marine Corps,
Colonel Harry L. Smith, U. S. Marine Corps,
Colonel Earl C. Long, U. S. Marine Corps,
Colonel Keller E. Rockey, U. S. Marine Corps,
Colonel DeWitt Peck, U. S. Marine Corps,
Colonel Archie F. Howard, U. S. Marine Corps, and
Colonel Raymond R. Wright, U. S. Marine Corps.

Lieutenant Colonel Donald Curtis, U. S. Marine Corps, will act as recorder.

2. The board is hereby ordered to convene at the Navy Department, Washington, D. C., on November 6, 1939, at 10 o'clock A. M., or as soon thereafter as may be practicable.

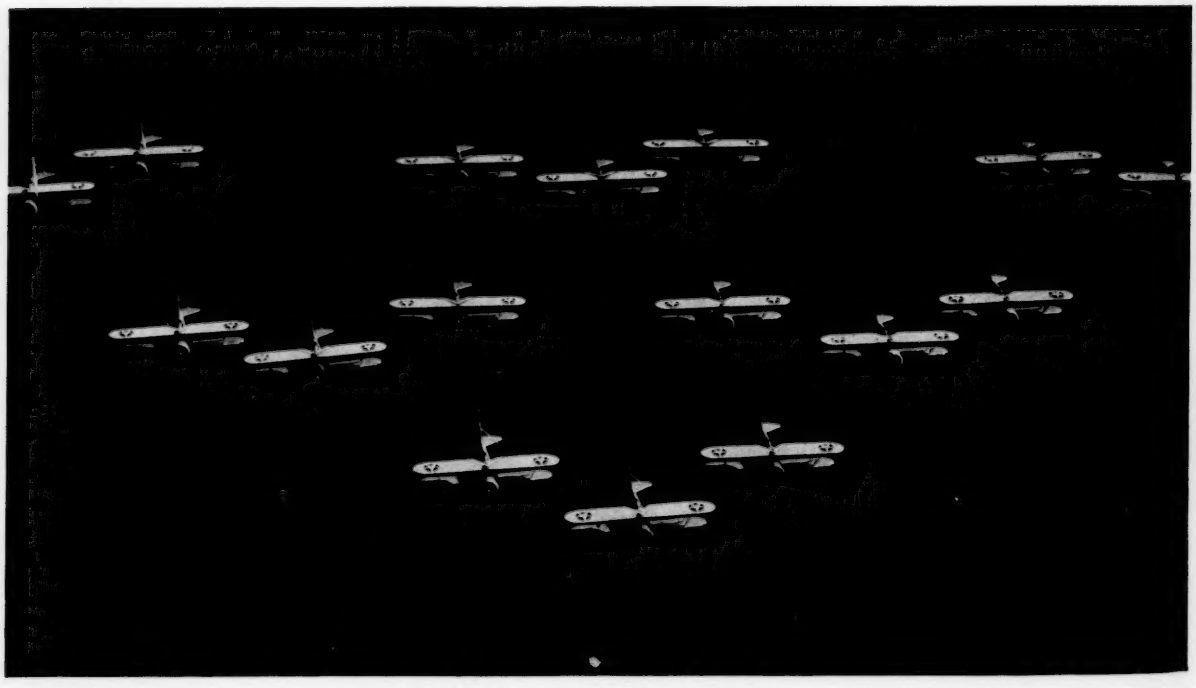
3. The number of estimated vacancies which will occur in the grade of lieutenant colonel before the end of the next succeeding fiscal year in excess of the number of officers now on the promotion list for that grade is thirty (30). The Acting Secretary of the Navy will furnish the board with the names of all officers in the grade of major who are eligible for consideration for promotion to the grade of lieutenant colonel and with the records other than medical of all such officers.

4. The board shall perform the following duties:

(a) From among those officers eligible for consideration for promotion to the grade of lieutenant colonel the board shall recommend for promotion as best fitted not exceeding thirty (30) majors, including those who are, or who may become on promotion, additional numbers in grade.

(b) From among those officers eligible for consideration for promotion to the grade of lieutenant colonel and who have once failed of selection as best fitted by a preceding board, less those who may be selected by the present board as best fitted for promotion, the board shall designate those officers whom the board adjudges fitted for promotion.

(c) From among those officers eligible for consideration and who will have less than twenty-one years' service on the date the board submits its report, the board shall report the names of any officers whose reports and records in its opinion indicate their unsatisfactory



Official U. S. Navy Photograph. VMF-1

performance of duty in their present grade and in its opinion indicate that they would not satisfactorily perform the duties of a higher grade.

(d) From among those officers adjudged fitted for promotion the board shall recommend by name for retention on the active list a number of officers equal to the percentage thereof furnished to the board by the Acting Secretary of the Navy as provided by paragraph 9 of this precept.

5. The board shall be governed by the Act of June 23, 1938, (52 Stat. 944) which establishes a "merit system for promotion by selection" in the line of the Navy and is applicable to the Marine Corps. The following instructions contained in that act will be particularly observed by the board in the discharge of its duties, viz:

(a) Officers recommended for promotion by the board under the provisions of paragraph 4(a) of this precept shall be those officers "whom it considers best fitted for promotion." (Sec. 9(a).)

(b) The status of having previously failed of selection as best fitted shall not be considered as prejudicial to an officer with respect to his qualifications, his fitness for the naval service, or his eligibility for selection. (Sec. 9(a).)

(c) The board shall carefully consider the case of every officer whose name is furnished it by the Acting Secretary of the Navy. (Sec. 10(a).)

The board shall also observe the following instructions relating to selection for promotion in the Marine Corps, contained in the act of Congress approved May 29, 1934 (48 Stat. 811, 34 U. S. Code 667d), and continued in force by the aforesaid act of June 23, 1938:

"That administrative staff duty performed by any officer under appointment or detail, and duty in aviation, or in any technical specialty, shall be given weight by the selection board in determining his fitness for promotion equal to that given to line duty equally well performed."

The board shall also observe the following instructions relating to selection for promotion in the Marine Corps of officers in the grade of major assigned to assistant quartermaster and assistant paymaster duty only, contained in the act of July 28, 1937, (50 Stat. 537; 34 U. S. Code 632a):

"That the recommendation of selection boards in the cases of officers assigned to such duty shall be based upon their comparative fitness to perform the duties prescribed for them."

6. The board is informed that the law charges the Secretary of the Navy with the duty of determining what officers are not physically qualified before furnishing the selection board with the names of officers eligible for its consideration, and such officers will not be included in the list of eligibles submitted to the board. (Decision of the Secretary of the Navy, Sept. 8, 1938, file OL/P17-2-(380806R).)

7. No discretion is vested in the Secretary of the Navy or in any other person to prescribe a method of selection to be followed by a selection board, and any communication from any source which even remotely suggests that the board depart from the clear instructions prescribed by statute law is illegal. (Decision of the Secretary of the Navy, April 27, 1931, file EN/A17-31 (310422).)

8. The following oath or affirmation shall be administered to the recorder by the president of the board:

"You, Donald Curtis, do solemnly swear (or affirm) that you will keep a true record of the proceedings of this board."

The following oath or affirmation shall be administered by the recorder to the members of the board:

"You, and each of you, do solemnly swear (or affirm) that you will, without prejudice or partiality, and having in view both the special fitness of officers and the efficiency of the naval service, perform the duties imposed upon you as provided by the act of Congress approved June 23, 1938, entitled 'An Act to regulate the distribution, promotion, and retirement of officers of the line of the Navy, and for other purposes.'"

9. When the board has made the necessary decisions, it shall address a communication to the Acting Secretary of the Navy stating separately the number of officers who

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have been agreed upon and will be recommended in the board's report as best fitted or fitted, respectively, to assume the duties of the next higher grade. The board will thereupon be furnished by the Acting Secretary of the Navy with a statement, as directed by the President, giving the percentage, if any of the officers adjudged fitted for promotion which shall be recommended for retention on the active list to meet the immediate requirements of the Navy.

10. The proceedings of the board shall be conducted insofar as may be practicable in accordance with the provisions of Naval Courts and Board.

11. The names of the officers recommended or reported by the board shall be entered in handwriting. The report of the board shall be signed by all the members, and shall contain the following certificate:

"We, the undersigned, do hereby certify that:

(1) We have carefully considered the case of every officer whose name was furnished the board by the Acting Secretary of the Navy.

(2) In the opinion of at least six (6) of the members, the officers herein recommended as best fitted for promotion are the best fitted of all those under consideration to assume the duties of the next higher grade.

(3) In the opinion of at least six (6) of the members, the officers herein adjudged fitted for promotion are fitted to assume the duties of the next higher grade.

(4) In the opinion of at least five (5) of the members, the officers (if any) herein recommended for retention on the active list are the best fitted, of those herein adjudged fitted for promotion, to be retained on the active list to meet the immediate requirements of the Navy.

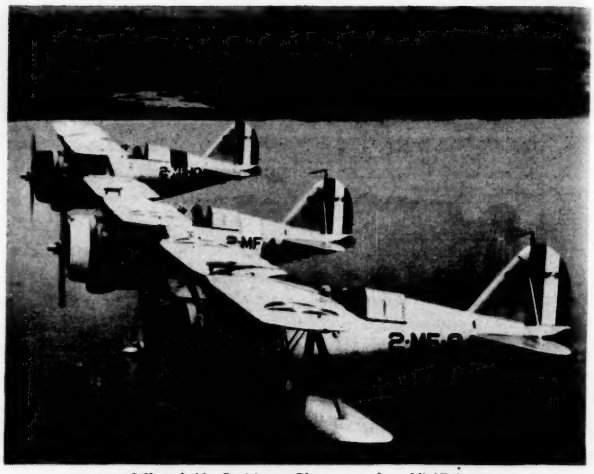
(5) In the opinion of at least five (5) of the members, the officers (if any) herein reported in accordance with paragraph 4(c) of the board's precept have reports and records which indicate their unsatisfactory performance of duty in their present grade and indicate that they would not satisfactorily perform the duties of a higher grade.

(6) The foregoing recommendations of the board in the cases of officers who are assigned to assistant quartermaster and assistant paymaster duty only are based upon their comparative fitness to perform the duties prescribed for them."

12. The recommendations of the board shall be regarded by the members of the board and the recorder as confidential. Upon completion of its proceedings, but not before eleven (11) full days have elapsed, including the date of the convening of the board, the board shall forward the record of its proceedings to the Judge Advocate General of the Navy.

CHARLES EDISON.

The President has approved the report of the Marine Corps Selection Board, which was convened at Headquarters Marine Corps, Washington, D. C., on November 6th to recommend officers of the rank of major for promotion to lieutenant-colonel.



Official U. S. Navy Photograph. VMF-2

SELECTED AS BEST FITTED

Major Lucien W. Burnham,
Major Jacob Lienhard,
Major George F. Stockes,
Major Jacob M. Pearce,
Major Robert C. Thaxton,
Major Jesse L. Perkins,
Major Lee H. Brown,
Major Herman R. Anderson,
Major Julian P. Brown,
Major Merritt A. Edson,
Major Curtis W. LeGette,
Major Joseph H. Fellows,
Major Louis G. DeHaven,
Major Lester A. Dessez,
Major John W. Beckett,
Major John Halla,
Major Kenneth A. Inman,
Major Lester N. Medaris,
Major Frank B. Goettge,
Major Donald G. Oglesby,
Major Byron F. Johnson,
Major John T. Selden,
Major Elmer E. Hall,
Major Harry B. Liversedge,
Major Merton J. Batchelder,
Major George E. Monson,
Major William J. Wallace,
Major Amor L. Sims,
Major George R. Rowan,
Major Theodore H. Cartwright.

SELECTED AS FITTED

Major John Groff,
Major Harold D. Shannon,
Major Prentice S. Greer,
Major George T. Hall,
Major Howard N. Stent.

RECOMMENDED FOR RETENTION ON ACTIVE LIST

Major Harold D. Shannon,
Major Prentice S. Greer,
Major Howard N. Stent.

DEPARTMENT OF THE NAVY

Washington, D. C., November 10, 1939.

From: The Acting Secretary of the Navy.

To: Major General James C. Breckenridge, U. S. Marine Corps.

Subject: Precept convening selection board for the recommendation of marine officers for promotion to the grades of brigadier general and colonel, U. S. Marine Corps.

1. A selection board is hereby appointed, consisting of yourself as president, and the following additional members:

Brigadier General Richard P. Williams, U. S. Marine Corps,

Brigadier General William P. Upshur, U. S. Marine Corps,

Brigadier General Emile P. Moses, U. S. Marine Corps,

Brigadier General Holland M. Smith, U. S. Marine Corps,

Brigadier General Philip H. Torrey, U. S. Marine Corps.

Lieutenant Colonel Donald Curtis, U. S. Marine Corps, will act as recorder.

2. The board is hereby ordered to convene at the Navy Department, Washington, D. C., on November 20, 1939, at 10 o'clock A. M., or as soon thereafter as may be practicable.

3. The number of estimated vacancies which will occur in the grade of brigadier general before the end of the next succeeding fiscal year in excess of the number of officers now on the promotion list for that grade is four (4). The Acting Secretary of the Navy will furnish the board with the names of all officers in the grade of colonel who are eligible for consideration for promotion to the grade of brigadier general, and with the records other than medical of all such officers.

4. The Acting Secretary of the Navy will furnish the board with the names of all officers of the grade of colonel who are eligible for consideration for appointment as head of a staff department of the Marine Corps, and with the records other than medical of all such officers.

5. The number of estimated vacancies which will occur in the grade of colonel before the end of the next succeeding fiscal year in excess of the number of officers now on the promotion list for that grade is nineteen (19). The Acting Secretary of the Navy will furnish the board with the names of all officers in the grade of lieutenant colonel who are eligible for consideration for promotion to the grade of colonel, and with the records other than medical of all such officers.

6. The board shall perform the following duties:

(a) From among those officers eligible for consideration for promotion to the grade of brigadier general, the board shall recommend for promotion as best fitted not exceeding four (4) colonels, including those who are, or who may become on promotion, additional numbers in grade.

(b) Should the board recommend for promotion to brigadier general of the line a colonel who is now serving as head of any Staff Department or whose name is

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on the eligible list for appointment as head of any Staff Department, the board shall recommend an additional officer of the grade of colonel for appointment as head of such Staff Department.

(c) From among those officers eligible for consideration for promotion to the grade of colonel the board shall recommend for promotion as best fitted not exceeding nineteen (19) lieutenant colonels, including those who are, or who may become on promotion, additional number in grade.

(d) From among those officers eligible for consideration for promotion to the grade of colonel and who have once failed of selection as best fitted by a preceding board, less those who may be selected by the present board as best fitted for promotion, the board shall designate those officers whom the board adjudges fitted for promotion.

(e) From among those officers of the grade of lieutenant colonel who are adjudged fitted for promotion the board shall recommend by name for retention on the active list a number of officers equal to the percentage thereof furnished to the board by the Acting Secretary of the Navy, as provided in paragraph 13 of this precept.

7. The board shall be governed by the Act of June 23, 1938, (52 Stat. 944) which establishes "a merit system for promotion by selection" in the line of the Navy and Marine Corps. The following instructions contained in that act will be particularly observed by the board in the discharge of its duties, viz:

(a) Officers recommended for promotion by the board under the provisions of paragraph 6 (a) and (c) of this precept shall be those officers "whom it considers best fitted for promotion" (Sec. 9 (a).)

(b) The status of having previously failed of selection as best fitted shall not be considered as prejudicial to an officer with respect to his qualifications, his fitness for the naval service, or his eligibility for selection. (Sec. 9 (a).)

(c) The board shall carefully consider the case of every officer whose name is furnished it by the Acting Secretary of the Navy. (Sec. 10 (a).)

8. The board shall also observe the following instructions relating to selection for promotion in the Marine Corps, contained in the act of Congress approved May 29, 1934 (48 Stat. 811, 34 U. S. Code 667d), and continued in force by the aforesaid act of June 23, 1938:

"That administrative staff duty performed by any officer under appointment or detail, and duty in aviation, or in any technical specialty, shall be given weight by the selection board in determining his fitness for promotion equal to that given to line duty equally well performed."

9. The board shall also observe the following instructions relating to selection for promotion in the Marine Corps of officers in the grades of colonel and lieutenant colonel detailed to assistant quartermaster and assistant paymaster duty only, contained in the Act of Congress approved July 28, 1937 (Pub. No. 218—75th Cong., 34 U. S. Code 632a):

"That the recommendation of selection boards in the cases of officers assigned to such duty shall be based

upon their comparative fitness to perform the duties prescribed for them."

10. The board is informed that the law charges the Secretary of the Navy with the duty of determining what officers are not physically qualified before furnishing the selection board with the names of officers eligible for its consideration, and such officers will not be included in the list of eligibles submitted to the board. (Decision of the Secretary of the Navy, Sept. 8, 1938, file OL/P17-2-(380806R).)

11. No discretion is vested in the Secretary of the Navy or in any other person to prescribe a method of selection to be followed by a selection board, and any communication from any source which even remotely suggests that the board depart from the clear instructions prescribed by statute law is illegal. (Decision of the Secretary of the Navy, April 28, 1931, file EN/A17-31(310422).)

12. The following oath or affirmation shall be administered to the recorder by the president of the board:

"You, Donald Curtis, do solemnly swear (or affirm) that you will keep a true record of the proceedings of this board."

The following oath or affirmation shall be administered by the recorder to the members of the board:

"You, and each of you, do solemnly swear (or affirm) that you will, without prejudice or partiality, and having in view both the special fitness of officers and the efficiency of the naval service, perform the duties imposed upon you as provided by the act of Congress approved June 23, 1938, entitled 'An Act to regulate the distribution, promotion, and retirement of officers of the line of the Navy, and for other purposes.'"

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13. When the board has made the necessary decisions, it shall address a communication to the Acting Secretary of the Navy stating separately the number of officers in each grade who have been agreed upon and will be recommended in the board's report as best fitted or fitted, respectively, to assume the duties of the next higher grade. The board will thereupon be furnished by the Acting Secretary of the Navy with a statement, as directed by the President, giving the percentage, if any, of the officers adjudged fitted for promotion which shall be recommended for retention on the active list to meet the immediate requirements of the Navy.

14. The proceedings of the board shall be conducted insofar as may be practicable in accordance with the provisions of Naval Courts and Boards.

15. The names of the officers recommended as best fitted or fitted, respectively, to assume the duties of the next higher grade, or for appointment as head of a staff department, or for retention on the active list, shall be entered in handwriting. The report of the board shall be signed by all the members, and shall contain the following certificate:

"We, the undersigned, do hereby certify that:

(1) We have carefully considered the case of every officer whose name was furnished the board by the Acting Secretary of the Navy.

(2) In the opinion of at least four (4) of the members, the officers herein recommended as best fitted for promotion are the best fitted of all those under consideration to assume the duties of the next higher grade (except that the recommendation of the board in the

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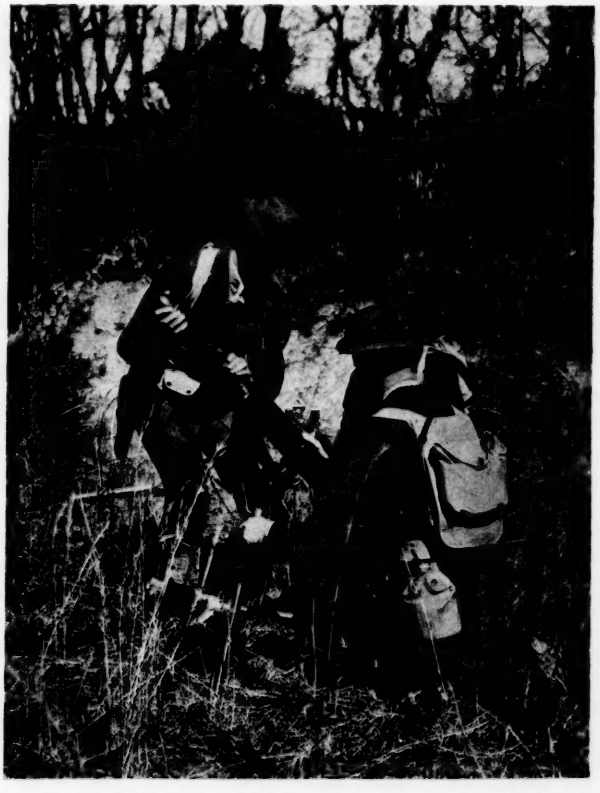

Members of the Fleet Marine Force at Quantico, Va., demonstrate the method of loading a light mortar.

cases of officers assigned to Assistant Quartermaster and Assistant Paymaster duty only is based upon their comparative fitness to perform the duties prescribed for them).

(3) In the opinion of at least four (4) of the members, the officers herein adjudged fitted for promotion are fitted to assume the duties of the next higher grade.

(4) In the opinion of at least four (4) of the members, the officers (if any) herein recommended for retention on the active list are the best fitted, of those herein adjudged fitted for promotion, to be retained on the active list to meet the immediate requirements of the Navy.

(5) In the opinion of at least four (4) of the members, the officers (if any) herein recommended for appointment as heads of staff departments are the best fitted of all those under consideration to assume the duties of the office for which recommended.

16. The recommendations of the board shall be regarded by the members of the board and the recorder as confidential. Upon completion of its proceedings, but not before eleven (11) full days have elapsed, including the date of the convening of the board, the board shall forward the record of its proceedings to the Judge Advocate General of the Navy.

H. R. STARK,
Acting.

The President has approved the report of the Marine Corps Selection Board which was convened at Headquarters Marine Corps, Washington, D. C., on November 20, 1939, to recommend officers of the ranks of colonel and lieutenant-colonel for promotion to brigadier general and colonel, respectively.

COLONELS SELECTED FOR BRIGADIER-GENERAL

Colonel Ross E. Rowell,
Colonel John Marston,
Colonel Samuel M. Harrington,
Colonel Alexander A. Vandergrift.

LIEUTENANT-COLONELS SELECTED FOR COLONEL

Lieut.-Colonel Lloyd L. Leech,
Lieut.-Colonel Raphael Griffin,
Lieut.-Colonel Samuel A. Woods, Jr.,
Lieut.-Colonel John M. Arthur,
Lieut.-Colonel William C. James,
Lieut.-Colonel David L. S. Brewster,
Lieut.-Colonel James T. Moore,
Lieut.-Colonel Thomas E. Bourke,
Lieut.-Colonel LeRoy P. Hunt,
Lieut.-Colonel Clifton B. Cates,
Lieut.-Colonel Leo D. Hermie,
Lieut.-Colonel Lemuel C. Shepherd, Jr.,
Lieut.-Colonel Frank Whitehead,
Lieut.-Colonel Robert Blake,
Lieut.-Colonel Alfred H. Noble,
Lieut.-Colonel Charles I. Murray,
Lieut.-Colonel Samuel C. Cumming,
Lieut.-Colonel Gilder D. Jackson, Jr.,
Lieut.-Colonel Graves B. Erskine.

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DEPARTMENT OF THE NAVY

Washington, D. C., November 13, 1939.

From: The Acting Secretary of the Navy.

To: Vice Admiral Charles P. Snyder, U. S. Navy.

Subject: Precept convening selection board for the recommendation of a marine officer for promotion to the rank of major general, U. S. Marine Corps.

1. A selection board is hereby appointed, consisting of yourself as president, and the following additional members:

Vice Admiral Charles A. Blakely, U. S. Navy,
Rear Admiral George T. Pettengill, U. S. Navy,
Rear Admiral John D. Wainwright, U. S. Navy,
Rear Admiral Charles S. Freeman, U. S. Navy,
Rear Admiral William S. Pye, U. S. Navy,
Rear Admiral Walter N. Vernou, U. S. Navy,
Rear Admiral Gilbert J. Rowcliff, U. S. Navy, and
Rear Admiral Husband E. Kimmel, U. S. Navy.

Lieutenant Colonel Donald Curtis, U. S. Marine Corps, will act as recorder.

2. The board is hereby ordered to convene at the Navy Department, Washington, D. C., on November 22, 1939, at 10 o'clock A. M., or as soon thereafter as may be practicable.

3. The number of estimated vacancies which will occur in the rank of major general before the end of the next succeeding fiscal year in excess of the number of officers now on the promotion list for that rank is one (1). The Acting Secretary of the Navy will furnish the board with the names of all officers in the rank of brigadier general of the line of the Marine Corps who are eligible for consideration for promotion to the rank of major general, and with the records other than medical of all such officers.

4. From among those officers eligible for consideration for promotion to the rank of major general, the board shall recommend for promotion as best fitted not exceeding one (1) brigadier general of the line of the Marine Corps.

5. The board shall be governed by the act of June 23, 1938 (52 Stat. 944) which establishes "a merit system for promotion by selection" in the line of the Navy and Marine Corps. The following instructions contained in that act will be particularly observed by the board in the discharge of its duties, viz:

(a) The officer recommended for promotion by the board under the provisions of paragraph 4 of this precept shall be that officer "whom it considers best fitted for promotion." (Sec. 9 (a).)

(b) The status of having previously failed of selection as best fitted shall not be considered as prejudicial to an officer with respect to his qualifications, his fitness for the naval service, or his eligibility for selection. (Sec. 9 (a).)

(c) The board shall carefully consider the case of every officer whose name is furnished it by the Secretary of the Navy. (Sec. 10 (a).)

6. The board shall also observe the following instructions relating to selection for promotion in the Marine Corps, contained in the act of Congress approved May 29, 1934 (48 Stat. 811, 34 U. S. Code 667d), and continued in force by the aforesaid act of June 23, 1938:

"That administrative staff duty performed by any of-

ficer under appointment or detail, and duty in aviation, or in any technical specialty, shall be given weight by the selection board in determining his fitness for promotion equal to that given to line duty equally well performed."

7. The board is informed that brigadier generals do not come within the statutory requirement that officers of designated ranks shall not be eligible for consideration for promotion if they have had less than four years' service in grade or are not physically qualified. Therefore, the physical qualification of brigadier generals is not determined by the Secretary of the Navy and is not to be assumed because of the fact that their names are furnished the board as eligible for consideration for promotion. Ltr. of Secretary of the Navy, file KS/A17-32(380903) CA-KE of Sept. 14, 1938).

8. No discretion is vested in the Secretary of the Navy or in any other person to prescribe a method of selection to be followed by a selection board, and any communication from any source which even remotely suggests that the board depart from the clear instructions prescribed by statute law is illegal. (Decision of the Secretary of the Navy, April 28, 1931, file EN/A17-31(310422).)

9. The following oath or affirmation shall be administered to the recorder by the president of the board:

"You, Donald Curtis, do solemnly swear (or affirm) that you will keep a true record of the proceedings of this board."

The following oath or affirmation shall be administered by the recorder to the members of the board:

"You, and each of you, do solemnly swear (or affirm) that you will, without prejudice or partiality, and having in view both the special fitness of officers and the efficiency of the naval service, perform the duties imposed upon you as provided by the act of Congress approved June 23, 1938, 1938 (5t Stat. 944), entitled 'An Act to regulate the distribution, promotion, and retirement of officers of the line of the Navy, and for other purposes.'"

10. The proceedings of the board shall be conducted insofar as may be practicable in accordance with the provisions of Naval Courts and Boards.

11. The name of the officer recommended for promotion shall be entered in handwriting. The report of the board shall be signed by all of the members and shall contain the following certificate:

"We, the undersigned, do hereby certify that we have carefully considered the case of every officer whose name was furnished the board by the Acting Secretary of the Navy, and that, in the opinion of at least six (6) of the members, the officer herein recommended is the best fitted of all those under consideration to assume the duties of the next higher rank."

12. The recommendation of the board shall be regarded by the members of the board and the recorder as confidential. Upon completion of its proceedings, but not before eleven (11) full days have elapsed, including the date of the convening of the board, the board shall forward the record of its proceedings to the Judge Advocate General of the Navy.

H. R. STARK,
Acting.

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The President has approved the report of the Marine Examining Board which was convened at Headquarters Marine Corps, Washington, D. C., on November 22, 1939, to select an officer for promotion to the rank of Major General.

The Board selected Brigadier-General William P. Upshur, U.S.M.C.

Brigadier General William P. Upshur

SCIENTIFIC PROGRESS

A new method of heat treating metals by electrical induction, which makes possible the hardening of inside diameters of cylinders and other bores, has been developed by Budd Induction Heating, Inc., a new subsidiary of the Budd Wheel Company.

The process, which already is being utilized in production work at the Budd Detroit plant, makes possible the heat treatment of inside diameters of metal cylinders from two inches in diameter up, and up to fifty feet in length, it is announced.

The area treated, depth of treatment, and the degree of hardness developed are controlled within exceedingly close limits, while timing of the operation is a matter of seconds.

In hardening inside diameters in which the treated area is of considerable length, such as engine cylinders, a retracting type head, which heats the material by electrical induction, is used. This is drawn evenly through the cylinder, followed by a water quench.

On one of the machines now in regular operation, a "one-shot" type of head is used to harden the bore of automobile hub forgings, thus making the roller-bearing

race an integral part of the hub. In this application, the treated area is brought to a hardness of 58-64 Rockwell "C." Nearly two million pieces have been turned out on these machines during the past three years without a failure being reported, it was revealed.

The success of an operation such as this, which requires exceedingly accurate control of area, depth, and hardness in the treated area, has led to the further development of the process for inside diameters of widely varying lengths and sizes of bores. Thus the new treatment may be applied to a wide range of sizes of interior diameters of cylinders and bores of various types.

It is anticipated that the process will find wide use in the metal industry. Other practical applications where it can be used to advantage, according to metallurgists who have observed the process, are the cylinder bores of diesel, gasoline and steam engines; oil-well casings; and the inside diameters of sleeves used in sleeve-valve internal combustion engines. Many other applications are under consideration at the present time, it is stated.

While present equipment is applicable to diameters of from 2 to 7½ inches, and lengths up to 30 inches, treatment of an even wider range of sizes will be possible when this is required, company officials state. Development work has been completed and the process tested and proven in production; application to sizes other than those handled by equipment already installed will require only the adoption of known engineering principles in the design of equipment to handle other sizes.

Metallurgical Considerations

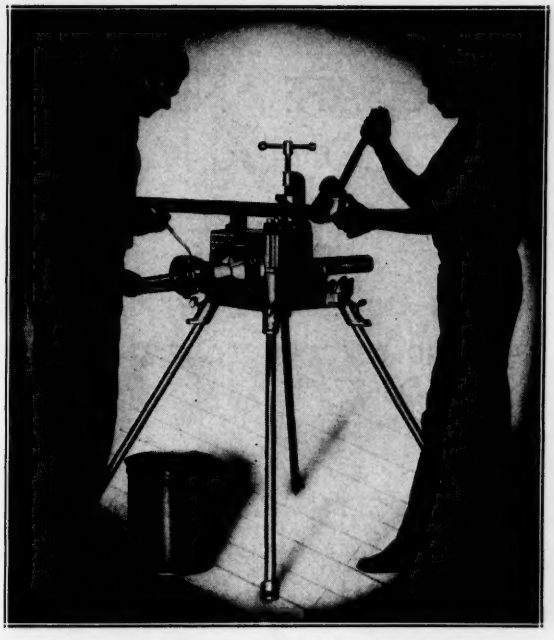
Induction heat treatment is applicable to all ferrous materials of suitable analysis. This includes any material which may be hardened, drawn, tempered, annealed or normalized by generally used methods. Gray iron, such as is used in many engine cylinder blocks; cast steel pipe, cast iron, and other materials of simplified analysis also are subject to the process.

In materials containing "free" or uncombined carbon, recombinations of this carbon at a greatly accelerated rate can be accomplished through this method of induction heat treatment, thus markedly increasing the "hardenability" and strength of the area treated. The grain size of the treated material may be made consistently smaller, which is considered an advantage in most applications as improved physical properties can be developed in this manner.

The process permits redesign of parts with lowered weights and costs in cases where integral localized heat treatment may favorably alter the metallurgy of the casting or forging to the point where a predetermined I.D. area of the original casting or forging becomes a hardened wear resisting surface. Such redesign is possible, for example, in the development of an integral external roller bearing race within a wheel, or in the hardened and honed internal diameter of a cylinder sleeve.

An important feature of the process, Budd engineers declare, is the fact that the outside diameter, and all other unhardened areas, can be machined after heat treatment of the inside diameter of the bore. As the depth of the hardened area is accurately controlled, the area which can be machined after the bore has been hardened can be very precisely determined. Sections of the bores which need

(*Continued on page* 49)



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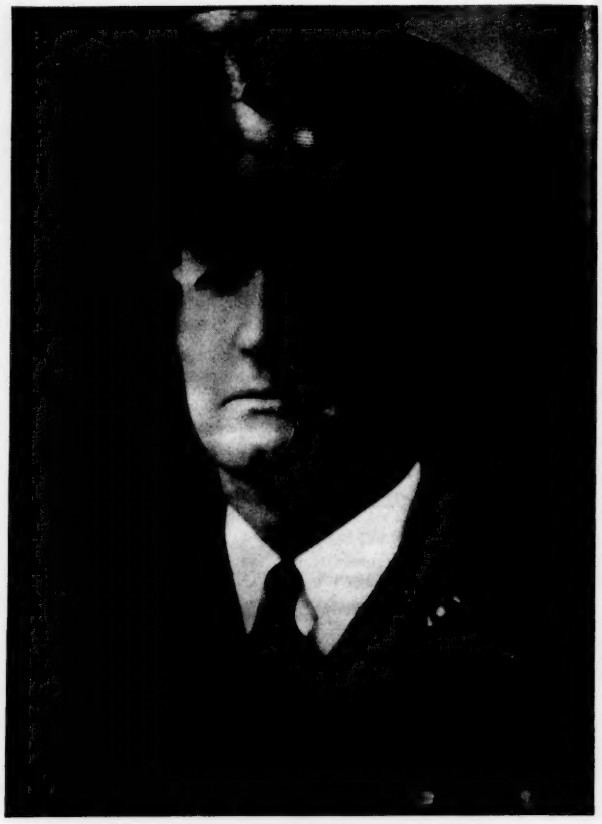


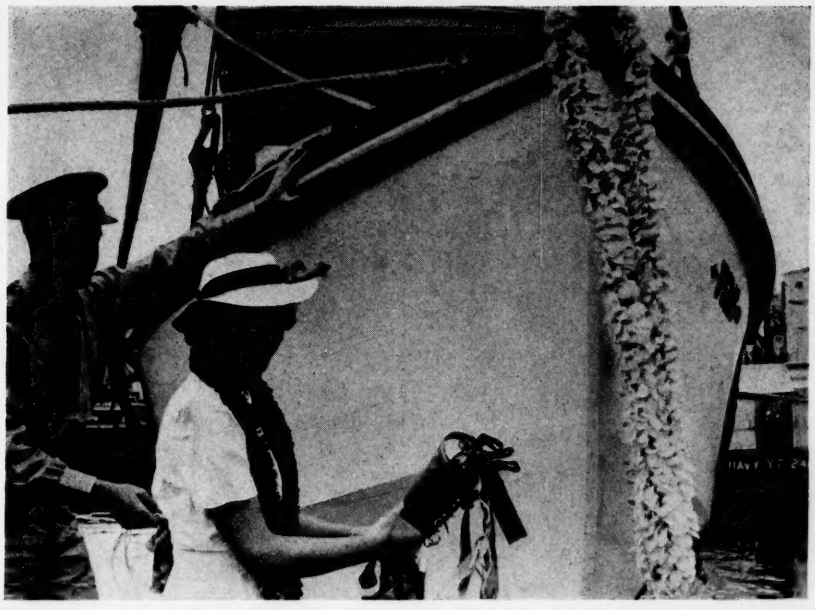
MILITARY HISTORY OF BRIGADIER GENERAL PHILIP H. TORREY, U. S. MARINE CORPS

Born July 18, 1884, at Fort Douglas, Utah. Appointed Second Lieutenant July 18, 1905, from the state of Montana. Promoted First Lieutenant May 13, 1908; Captain, August 29, 1916; Major (temporary), May 22, 1917; Major, June 4, 1920; Lieutenant Colonel, September 1, 1931, and Colonel, November 1, 1934. He was selected for promotion to Brigadier General by a Marine Corps Selection Board, the report of which was approved by the President November 1, 1938, and was promoted to that grade August 21, 1939.

Served on foreign duty in Cuba and Haiti and in the early part of 1918 was ordered to Europe for purposes of obtaining information regarding training, equipment, etc., of troops in the war zone. On his return was assigned as Officer in Charge of the Overseas Depot at Quantico, Va. Has also served at sea and at various posts and stations in the United States, and is at present Commandant of the Marine Corps Schools at Quantico, Va.

Is a graduate of the Naval War College, both Senior and Advanced Courses, and of the Field Officers' Course, Marine Corps Schools.

Holds the following medals and decorations: Cuban Campaign Medal, Victory Medal, and Marine Corps Expeditionary Medal for service in Cuba and Haiti.



Miss Arline C. Hinkle, daughter of Captain Hinkle, USMC, about to christen the "Captain Gamble" at Pearl Harbor. (Submitted by Colonel Robert L. Denig, USMC.)

SCIENTIFIC PROGRESS

(*Continued from page 47*)

hardness can be accurately treated to produce this quality, leaving tough machinable metal in all other parts of the hub, cylinder, sleeve, or other part under treatment. Further local heat treatment is also possible after machining.

Because of the short heat cycle employed, the whole hardening operation is performed in one to three seconds and decarbonization is no longer a heat treatment problem. It does not occur.

The short cycle in combination with an almost instantaneous quench which follows reduce oxidation to a minimum, while oxidation can be entirely eliminated when special provision is made to prevent it.

Results of repeated tests, plus the experience gained in producing nearly 2,000,000 automobile hubs with interior diameters treated by the new process, have led Budd Induction Heating Engineers to a number of interesting conclusions regarding the effectiveness of the new method of heat treatment.

Control of area, depth, and degree of hardness obtained is extremely accurate. Beyond this, a control system which operates automatically insures uniformity of hardness throughout the treated area, uniformity of area treated, and uniform depth of areas hardened, thus assuring steady production of units of controlled metallurgical properties. Depth of the area hardened can be varied from thirty thousandths of an inch to ⅛ inch or more.

Because of the high speed of heating, and the fact that only the area and depth to be hardened are subjected to heat treatment, distortion is held to a minimum. Annealing or normalizing treatments are less frequently required for units hardened with the new process.

The new machines are designed for rapid changeover from one size of bore operation to another. Flexibility, as well as accuracy of control, has been built into the equipment thus making possible efficient production of different size units without time-consuming changeovers, and with the operation of a minimum number of production lines. No trucking or handling of parts between departments is necessary between process operations.

The company is ready to undertake the design, engineering, and production of finished parts with bores hardened by the new process, or will treat the inside diameters of cylinders and other parts which are shipped to it for hardening. All the facilities of both companies—Budd Induction Heating, Inc., and the Budd Wheel Co.—are available for these services, it is announced.

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THE MARINE CORPS ASSOCIATION

SENDS

SEASON'S GREETINGS

TO

ALL HANDS

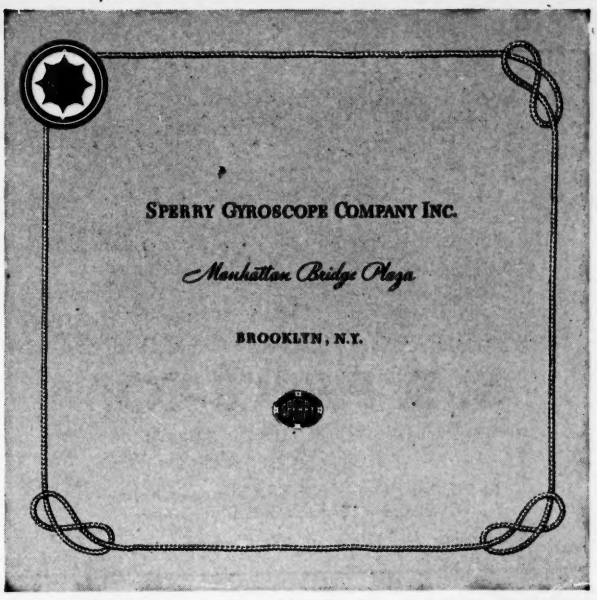
THE 94TH ANNIVERSARY

(*Continued from page* 35)

In 1794 Congress passed an Act to Provide a Naval Armament which authorized the appointment of several midshipmen to serve on each of the six vessels to be constructed as a nucleus for the new navy.[1] They were appointed from civil life by the President, and most of them knew nothing of the theory or practice of navigation.[2] This legislation was adopted at the time when American shipping was suffering depredations at the hands of the irresponsible corsairs of the Dey of Algiers. Despite the fact that the law contained, in Section 9, a provision nullifying the act if peace with Algiers should be forthcoming, the proponents of the important measure scored over the opposition led by James Madison only by the margin of 50 to 39.[3] The law marked the beginning of the permanent American Navy and the correlated movement to systematically train midshipmen as officer material.[4]

From this beginning we find in 1802 provision being

[1]Annals of Congress, 3d Congress, 1793-1795, pg. 1427.
[2]Report of the Commissioner of Education, 1898-99, pg. 748.
[3]Annals of Congress, 3d Congress, 1793-1795, pg. 497.
[4]A Short History of the United States Navy, by Clark, Stevens, Alden and Krafft, pg. 44.



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MANUFACTURERS FOR YEARS OF THE BEST QUALITY OF MARINE CORPS KHAKI OXFORD.

made for the instruction of midshipmen by chaplains aboard ship, and in 1813 arrangement being made for the appointment of schoolmasters to every large ship. It would be of more than academic interest to find some record of the chaplains' reactions to the stipulation of the Act of 1794 which authorized each man a half pint of distilled spirits each day, or, in lieu thereof, one quart of beer per day.

In 1814 the Hon. William Jones, Secretary of the Navy in the Cabinet of President Madison, recommended as follows: "I would suggest the expediency of providing by law for the establishment of a Naval Academy, with suitable professors, for the instruction of the officers of the Navy."[5] The same sentiment was expressed by Secretary Samuel L. Southard in a letter to Timothy Fuller, Chairman of the Naval Committee of the House, dated January 25, 1823. Southard, who, incidentally, favored New York as a situs for the school, declared: ". . . relative to a naval school, I would beg leave to observe that I think the subject is of great importance to the service, both as it respects the young officers themselves, and in their usefulness to their country."[6]

By 1830 there were established at Boston, New York, and Norfolk so-called "naval schools," where midshipmen were under instruction by chaplains and schoolmasters. This arrangement represented a step forward, but fell far short of the aims of those who clearly visualized the type of institution requisite for thorough professional training.

By 1836 we find that a large percentage of substantial opinion in the Navy itself had come to favor the plan for an academy, and the mordant criticism of the older "iron men" was gradually eclipsed by more progressive thought.

Uncontroverted evidence of this changed trend in the latter year is found in the record of the proceedings of certain officers of the Navy and Marine Corps stationed on board the U. S. ships *Constitution* and *Vandalia* recommending the establishment of a Naval Academy.

The preamble to the resolution adopted by these officers should be read as an expression of the attitude of the Navy in this regard, as well as constituting a testimonial to the lofty patriotism based on a practical understanding of the country's needs which has eternally inspired the personnel of the Naval Service. The text runs:

"Whereas, having ever felt the most ardent desire to prosecute successfully the profession to which we are devoted, to advance the interests of the navy, and to perpetuate the commercial prosperity of our common country, consigned in part to our safekeeping; and taught, by the experience of the past, that neither industry nor talent can spare the advantages offered by early education, earnestly desirous of the means of securing it, and deploring the inadequacy of the existing system to accomplish either the object of the government, or to meet our heartfelt wishes for professional instruction; and believing, as we do, that a respectful representation of the anxious hopes which the entire navy have ventured to indulge for so many years, and to the consummation of which they look with the deepest interest, will receive the consideration to which so excellent an object is entitled, and find, from liberal authorities, that indulgence which is ever acceded to generous aspiration and laudable exertions; * * *"[7]

[5]Report of the Commissioner on Education, 1898-99, pg. 748.
[6]"American State Papers," Naval Affairs, Vol. IV, pg. 273.
[7]"American State Papers," Naval Affairs, Vol. 4, pg. 884.

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The body of this important resolution recited the peculiar advantages of education to sea officers, pointed out the limited value of the existing arrangement of providing schoolmasters for training, and resolved that the establishment of a permanent school was essential to proper naval education.

Important and symptomatic of naval thought as were these views, they provided no more than a foundation for one of the most significant and comprehensive official statements to issue from a governmental source regarding the desirability of founding a naval college. This was the report of the Senate Committee on Naval Affairs on May 14 of the same year in presenting to the Senate a bill for the establishment of a naval school.

This report, without resort to chauvinism, justified the plan for such an institution by silhouetting it against the broad background of our commercial and diplomatic policies, and demonstrating in terms that indicated a pantoscopic range of perception that the benefits of the school would requite whatever expense might be involved.

One paragraph of the Senatorial committee's conclusion reads like the epitome of our entire naval policy:

"Our navy visits every land and every ocean. It protects a commerce at this moment as *valuable* as that of any other nation, though less than one other in amount of men and tonnage, scattered over the whole habitable globe, and exposed to dangers of every possible description. In the protection of this commerce, our naval officers are often brought in contact with the governments and official agents of every civilized nation, and are often obliged to have intercourse with them upon subjects which can only be properly treated by well educated and well informed men. They are, indeed, our national representatives in all other countries, and from them much of the estimate of us, as to our manners, intelligence, and character as a nation, must be drawn. It is not possible that their duties can be performed in the manner in which we should desire them to be performed, without science, intelligence and knowledge. Besides, we are a growing nation, and it is our interest and duty to draw from every other region every species of knowledge which can be useful to us. * * *"[8]

How similar in tone is this resonant defense of seapower and adequate training to the poignant observations of Mahan on the naval policy of the United States made in 1889:

"* * * the influence of the government should make itself felt, to build up for the nation a navy which, if not capable of reaching distant countries, shall at least be able to keep clear

[8]"American State Papers," Naval Affairs, Vol. IV, pg. 969.

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the chief approaches of its own. * * * it may safely be said that it is essential to the welfare of the whole country that the conditions of trade and commerce should remain, as far as possible, unaffected by an external war. In order to do this, the enemy must be kept not only out of our ports, but far away from our coasts."[9]

With public and naval opinion moulded in favor of a national Naval Academy, it was a fortuitous circumstance that brought the historian George Bancroft to the cabinet of President Polk as Secretary of the Navy. A steadfast proponent of the future Academy, Bancroft moved with efficient tact to gain the final support of Congress in making an appropriation for the installation of the new school at the site of Fort Severn in Annapolis, which had been the locale most favored by the naval boards consulted by the Secretary.

The Naval Academy was formally opened on October 10, 1845, with fifty midshipmen and seven instructors.[10] The course was fixed at five years, of which only the first year and the last were to be spent at the school, the intervening years being passed at sea.[11]

The early history of the Academy was a period of struggle for the embryo institution. But it more than justified its existence by its contribution during the War for Southern Independence, and from the close of that struggle gathered increased strength and vigor with the passing years. The part taken by Naval Academy graduates in the Spanish and World Wars are engraved in glowing phrases upon the blue and gold tablets of the Navy's record. Not less inspiring have been the achievements of its alumni in the more prosaic but none the less valuable endeavors of the nation in peacetime.

During recent months and years international stress was on numerous occasions so great that war seemed inevitable. With the invasion of Poland by Germany it became an actuality. Between the late crises of the present day and those of Agadir and the Balkans which heralded the World War, we may draw a close parallel. Witnessing the maelstrom of seething national ambitions and intensified bitterness, together with the unholy ambitions of willful leaders, it was not difficult to apprehend that another Serajevo might be not too far distant. On this side of the Atlantic, in early September, we heard the first low whine of the whirlwind. Harvest time has come unexpectedly.

In such a picture our Navy is the palladium to which we look for protection from the blasts of aggression and totalitarian avarice. And behind the Navy stands the Academy, the great reservoir from which the Navy draws its officer strength.

The sober contemplation of these facts reveals a mandate to every Naval Academy alumnus to actively interest himself in those matters appertaining to the major ends of the Academy's function, to assist it when the opportunity is afforded, and to keep in mind these lines which appeared in the "Log" in 1915:

> The Service, and ever *the Service!*
> It stands for the first and the last,
> The bond of our brotherhood linking as one
> The Present and Future and Past.
> *Service* the ocean re-echoes—
> A voice from a far-washed shore,
> The Service—for God and for Country,
> The spirit of those gone before.[12]

[9]The Influence of Seapower upon History, Mahan, pg. 87.
[10]A Short History of the United States Navy, Clark, Stevens, Alden, and Krafft, pg. 219.
[11]Report of the Commissioner of Education, 1898-1899, Vol. I, pg. 749.
[12]"Anchors Aweigh," pg. 76, by C. G. H.

PATRONIZE OUR ADVERTISERS

OUR PEACE AND WARTIME TRAINING OF RECRUITS

By Major A. D. Challacombe, U.S.M.

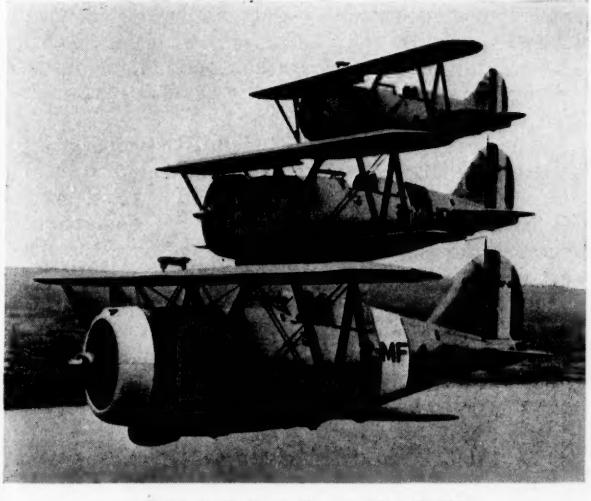
FOR over thirty years the Marine Corps has trained its recruits in Depots set aside for this important and special duty. The results obtained have fully justified this course. Few officers have had the privilege of observing the problems and mechanics of taking the present day American youth and turning him out an able-bodied Marine in a very few weeks.

Time of recruit training has varied in the last three decades from eighteen weeks down to our present four weeks.

Nations having compulsory military service are not faced with the task on "M" day of starting fundamental training and indoctrination of discipline into a large mass of men unaccustomed to respect authority. Practically all the recruits received by the Marine Corps from now until "M" day, and thereafter, will have been bred and born in an atmosphere distinctly non-military, that is from 1920 on. This young American has been accustomed to hearing his government freely criticized and perhaps himself has already become an expert critic. He may come from a section of the country distinctly prejudiced against military training and the uniform of the services.

Take your average recruit platoon gathered either east or west of the Mississippi River. It will be composed of Irish, Swedes, Poles, Jews, Italians, men of Spanish descent and others; but it will have enough second generation Americans to give it a certain American spirit. This composite group adds to the difficulties of quick fusion into a completely disciplined team.

There are other difficulties peculiarly a problem of the youth today in this country—America rides; walking is a lost art. The shoes worn today are mostly low-cut, or "Keds," making the breaking in of the military shoes a problem.



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The picture is not, however, all dark. You have in the average young American today those qualities in abundance which are essential in winning modern battles. They are physical powers, self reliance, initiative, resourcefulness, courage and intelligence of a high order.

The problem then is to use these assets in the military organization.

The Marine Corps is fortunate in having two recruit Training Areas where the climate and terrain are such that field training can be carried on throughout the year without interference by inclement weather. Plans for expansion of these Depots to accommodate the anticipated thousands of recruits to be trained will undoubtedly be completed prior to "M" day.

To fill the immediate needs of the Marine Corps, it is believed that, starting on "M" day, a nation-wide radio plea, properly edited, would bring back many desirable men who have served in the Marine Corps.

It will be up to our recruiting service to gather into the Marine Corps the cream of the crop to aid in maintaining the Esprit de Corps which in a large measure is the secret of success in any organization.

The limit set by the Marine Corps for recruit training is twenty-one days from arrival at the Depot until transferred to a combat organization. This is the limit also of the Medical Corps on communicable diseases and the present period of typhoid prophylaxis.

To use this limited time to full advantage and turn out a fully equipped Marine of high morale will require a high degree of organization perfected prior to "M" day.

The success of such an organization will in a major degree depend on the selection, aptitude and training of the noncommissioned officers to be used as instructors.

From past experience in a recruit depot, the proportion of noncommissioned officers interviewed, to those who can actually make good as instructors, is four to one. On "M" day it will be too late to get that one; he will want to be with the combatant troops, but if he has been selected and trained previously his pride and loyalty will keep him up to the high standard required.

The most practicable unit for instruction, it is believed, is in six-squad platoons. This unit can be handled by three noncommissioned officers—one sergeant and two corporals.

Before this team receives their men for scheduled training there are many mandatory details of an administrative nature to be accomplished.

Upon arrival on the post, the recruits are conducted to the Receiving Barracks which is set aside in the recruit area. If the commanding officer wants to rest easily, this barracks should be manned by noncommissioned officers of the first three pay grades, as this is the place most vulnerable to rackets and morale.

Here the recruit is issued his two blankets, his bedding and taught to make up his bunk. His next act is a bath under supervision, as it is surprising to note the number of men who do not know how to bathe properly; next a very thorough examination by the doctor and dentist.

Other details to be executed are: cutting paper stencil and marking blankets, turning over all valuables and cash in excess of five dollars to a responsible officer for

safe keeping, hair-cut, reading of the Articles for the Government of the United States Navy, drawing bucket from the Post Exchange with supplies, clothing issue, and marking same, official picture, insurance lecture, and signing for insurance, shipping civilian clothing home, or donating same to the Salvation Army. Issue of 782 equipment along with such dental treatments as are necessary. The above activities will consume a minimum of two days and complete the administrative details.

It is desirable here to consider the mission (training objective) other than the administrative end.

The training mission is to thoroughly train the recruit as a private in every essential subject which will contribute to his efficiency in camp, on the march and as a fighting unit in battle.

The training program must be so arranged that at the end of nineteen days each man will have received the maximum possible instruction in subjects essential to combat.

Essential Subjects which must be taught:

(a) Disciplinary.—This phase must include all subjects prescribed for the basic training of a Marine, as follows:

(1) Marine Corps Orders, and Customs of the Service.
(2) Military Courtesy.
(3 Close order drill.
(4) Physical Training.
(5) Inspections.
(6) Interior Guard Duty.
(7) Care and Maintenance of Equipment.
(8) Extended Order Drill.
(9) Marches and Camps.
(10) Defense against Chemical Warfare.
(11) Sex Hygiene.
(12) Display of Equipment and Tent Drill.
(13) Hygiene and Sanitation.
(14) First Aid.

(b) Technical.—The technical phase must include:

(1) Rifle Marksmanship.
(2) Pistol.
(3) Bayonet.
(4) Hand Grenade.
(5) Musketry.
(6) Antiaircraft rifle firing.
(7) Fox holes and camouflage.

(c) Tactical.—The tactical training of each platoon must include instruction and practical work in the following subjects:

(1) Scouting and Patrolling.
(2) Combat Principles of the Squad and Platoon.
(3) Combat Practice Firing.
(4) Night Operations.
(5) Embarking and landing from small boats.

Time available: Each platoon must cover all the subjects listed above in nineteen days; in those days there will be at least two Sundays and two Saturday afternoons which will be needed for rest, leaving sixteen training days.

For a training day the maximum number of hours of instruction practicable would possibly be as follows:

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0520 Physical drill under arms (once completely through all movements each day progressively working up to complete all movements three times the last five days).
0550 Recall.
0600 Breakfast.
0700 Drill Call.
1130 Recall.
1200 Dinner.
1300 Drill Call.
1600 Recall followed by Scrub and wash clothes.
1700 Supper.
1800 Training films, lectures, demonstrations and news reels.
2000 Recall.
2010 Foot and Body inspection.
2030 Secure.
2100 Taps.

The above suggested routine will give a total of ten and one-half hours of daily instruction, eight of which would be on the field and two and one-half hours given to lectures, demonstrations, and training films indoors. The two Saturday evenings, indoor instructions should continue, thus giving 173 hours available, 133 hours of which is on the field and 40 hours indoors.

To break this down further, it is suggested that 65 hours be allotted to disciplinary subjects, 20 hours of which will be indoor instruction. For technical subjects, 60 hours, 12 of which are indoor periods. The tactical phase would be 48 hours with 8 hours in demonstrations and training films.

Only by the method of actual trial and error can the correct time be allotted each basic subject in all phases of the training. This could be done at present in our two Recruit Depots and a complete schedule and routine made up for use in a national emergency, kept up to date by a trial run of one platoon each six months for a check.

Organization for training; a plan of training, combining the specialist and unit training systems would insure uniformity of instruction. Of the twenty-six subjects listed, fourteen could very well be taught by the noncommissioned officers in charge of the platoon. The other twelve, possibly in the interest of time saving and thoroughness, should be imparted by specialists.

Obstacles:

(a) *Administrative:* There being no requirements for guard duty, general police work outside of the Depot Area, or special duty required of recruits, only minor obstacles are present in this subject.

(b) *Physical:* Due to the limited tactical training in-

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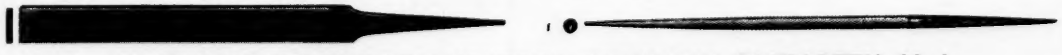

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volved, the terrain in the vicinity of the Recruit Depot will suffice, and no time will be lost, except short periods, in transportation to areas where live ammunition is to be used.

(c) *Human:* The type of recruit who will volunteer for service in the Marine Corps in time of national emergency should offer no great obstacle to training.

Homesickness, which crops up in a man's first few weeks in the Service, is one of the most difficult things to combat. No known measures that I have seen tried as a cure have been effective. A good Chaplain, who can work on the individual, appears to afford some relief.

To avoid the human obstacle of the commanding officer over-emphasizing his specialty, it may be the manual of arms, signalling, posture of the men, etc., a directive from Headquarters Marine Corps, to both Recruit Depots, setting forth the time to be devoted to each subject, would insure uniformity.

A number of basic subjects will lend themselves to be taught concurrently, thereby resulting in more thorough instruction.

As a picture is worth a thousand words, all lectures should be illustrated by the use of charts. This system, on some subjects, is used with success at the Recruit Depot in San Diego. Another aid is the use of a large sandlot where all of the features of terrain are plainly labeled. The sandlot in San Diego is about 40 by 60 feet and miniature lead Marines are used in it to show the varied field formations, illustrating both tactical and technical phases.

Both Depots are now using Army Training Films with good results, but only a few of the subjects are covered by this method. It is believed that the Marine Corps could make its own Training Films, at not too great an expense, to fill in the gaps, and covering our own particular problems not covered by the Army Films.

There are a number of aids to morale and training which may sound trivial but only by lending every assistance to both the instructors and recruits will you change a civilian, with no previous military training, into a basically sound Marine in twenty-one days. Drinking fountains, near the drill field, plenty of them, is one item; others are benches to sit on during the five-minute breaks every thirty minutes, which will pay dividends in attention during the next period. Have at least urinals in the vicinity of your instruction area.

Arrange to have the typhoid prophylaxis shot after eleven, Saturday morning, as an average of eight men per platoon will have reactions, and run a temperature of over one hundred for around thirty-six hours; in this way you lose little instruction time. Have the Post Exchange issue only buckets with the tops of the bale ears lower than the rim of the bucket; this not only will provide a seat in the barracks, but will prevent the first boatswain's mate encountered at sea from throwing it over the side for nicking the deck.

Having the band play at least thirty minutes daily during one of the meal hours will help morale.

The food at a Recruit Depot must be supervised very carefully. From past experience I find that recruits will eat more in quantity due to their active field schedule than the same number of seasoned men. A recruit pla-

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toon of forty-eight men will, during the present period of instruction, put on approximately three hundred and twelve pounds of solid flesh or an average of six and one-half pounds per man. This has been checked a number of times at the Depot in San Diego. It is believed that a recruit mess should have a ration allowance of ten cents per day per man additional.

Conclusion: To carry out the missions assigned Recruit Depots on "M" day, plans must be complete for the rapid expansion of the administrative facilities.

Noncommissioned officers who have demonstrated their fitness as instructors of Platoon Leaders, Reserves, and previous recruit instructions must be listed and made available for duty at the Depots. A Graduate Chiropodist should be on duty at each Depot to supervise the fitting of all shoes and correct foot ailments during recruit training.

A uniform training schedule and routine should be drawn up including hours to be allotted to each basic subject and given a thorough test at our present Recruit Depots to be sure it will fulfill the requirements on "M" day.

A SYSTEM FOR SELECTING PRIVATES FOR PROMOTION TO PRIVATE FIRST CLASS

CAPTAIN J. S. LETCHER

IT SHOULD be the aim of every company commander to select the best fitted men in his organization for promotion. There are two reasons for this: first, to increase the efficiency of his command and, second, to reward the most deserving men. A system by which men are selected for promotion should give every man an equal opportunity and should be based largely upon the man's performance of duty and not merely upon the company commander's or someone else's opinion of him.

It has been my experience that in some organizations the selection of privates for promotion to private first class is done in a rather haphazard manner. The procedure is generally something like this: The first sergeant recommends such and such a man and the company commander having recently taken command or not knowing all the qualifications of the men in the company asks several questions. "What is his rifle qualification?" "How many years' service has he?" "Any offenses?" If the answers to these questions are satisfactory the company commander says, "Okay, put him on the list." He is recommended to the Commanding Officer and when a vacancy occurs the private is promoted to private first class.

Such a method of selecting men to be promoted leaves much to be desired. First of all even if the captain knows all his men and does not rely upon the recommendations of the first sergeant or anyone else his judgment is as liable as anyone's to be in error and so often the best man is not promoted. But even if we concede that the company commander can select the best man there will undoubtedly be many privates who feel that they and not the selected man should have been promoted. This is inevitable because it is a common tendency which nearly all human beings have to believe that they

HAVE YOU PAID YOR DUES TO THE ASSOCIATION?

are superior to most other human beings. When men feel, either rightly or wrongly, that an injustice has been done to them such a feeling will greatly depress their morale and through them the morale of the organization.

If a system can be evolved whereby the selection of a man for promotion is based upon his accomplishment of duty and which gives all privates an equal opportunity to secure selection for promotion it will make every man feel that he is being dealt with fairly. Such a feeling will pay worthwhile dividends in morale and in increased interest in the training which is being given. It will wipe out all feeling that there is partiality in promotion and will put up to each man the fact that he secures his promotion by his own efforts and not by favoritism, luck, or any other combination of circumstances. It is a great incentive for him to work hard in order to make good in everything he does.

With these ideas in mind a year ago a company order was promulgated excerpts of which are as follows:

1. Men eligible for promotion will be all privates who have had no offenses and who have not lost time under General Order No. 20 during the past six months.

2. The selection of men to be placed on the promotion list will be based on three things:

(a) A written examination which will consist of twenty questions on subjects "a" to "q" inclusive of MCO No. 146 and in addition Combat Principles for the rifle squad (ART 420-105). The maximum weight given to this examination will be 20 points.

(b) A series of practical examinations which will include: (1) Close order drill, the rifle squad (maximum weight 7); (2) the Service Rifle, calibre .30 (maximum weight 4); (3) the Browning Automatic Rifle (maximum weight 4); (4) the 37-mm. Gun (maximum weight 4); (5) the 3-inch Trench Mortar (maximum weight 4); (6) semaphore signalling (maximum weight 4).

(c) Additional qualifications which will be considered with the following weights are: (1) Length of service—a weight of 2 for each year (maximum weight 20); (2) Rifle Marksmanship (maximum weight 20), grade computed on the basis of 0 for a score of 275 and 20 for a score of 350, latest qualification score to count; (3) Bayonet qualification (maximum weight 3), grade computed on a basis of 1 for a score of 58 and 3 for a score of 66; (4) Hand Grenade qualification (maximum weight 8), grade computed on a basis of 3 for a score of 60% and 8 for a score of 100%; (5) Rifle Grenade score (maximum weight 4); (6) Browning Automatic Rifle or Thompson Sub-machine Gun qualification (maximum weight 2), a grade of 2 for qualification as expert rifleman and 1 for sharpshooter—firing these weapons and failing to qualify causes a reduction of 2 points from a man's grade; (7) Musketry (maximum weight 5), a grade of 5 for being a member of the squad firing the highest score for the season, 4 for the second highest, 3 for the third highest, 2 for the fourth highest and 1 for the fifth highest of squad; (8) Athletic ability (maximum weight 9), Membership on one post or company team gives a grade of 3, two teams a grade of 6, three teams a grade of 9. A man must play in scheduled games or compete in post swimming or track meets to get credit for being a member of a team.

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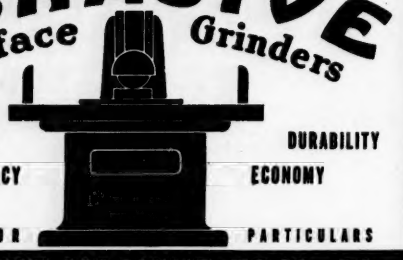
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3. The six men who have the highest total grades will be placed on the promotion list in the order of their standing. This promotion list will stand for six months from the day of the publication of the examination grades. After that time it will be void and a new examination will be held to establish a new list.

4. Commission of an offense for which the Commanding Officer awards any punishment or loss of time under General Order No. 20 will automatically act to remove a man from the promotion list.

It would be impossible to establish a system with which some persons will not find fault. There are other things in addition to those mentioned in the foregoing order which should probably be considered and no two people will agree as to exactly what weights should be given for each qualification. In this order the credits and weights for the various things were established after a good deal of thought in regard to the Marine Corps Generally and to our situation here at Peiping particularly.

I will give reasons for some of the rules and weights for various qualifications. Paragraph "1" of the order is included in the belief that opportunity for promotion should be open to every private, but that a soldier suitable for promotion should behave himself and maintain a clear record and also that he should practice rules of hygiene which will prevent venereal infection.

The written examination covering Marine Corps Order No. 146 can be made as comprehensive as desired. The examination was made up by the company commander and was given under the supervision of the first sergeant of the company. Numbers instead of names were put on examination papers and the first sergeant kept the list of men's names corresponding to their numbers in a sealed envelope. Papers were graded separately by two officers whose grades were averaged to reach a final grade before the envelope containing the names was opened.

The practical examination in close order drill was conducted by one officer and included explanations of movements and the conduct and bearing of the candidate as a drill master.

The examinations on the Service Rifle and the Browning Automatic Rifle were conducted by sergeants of the company who made up their examinations and submitted them to the company commander for his approval before they were given. The examinations on these weapons included nomenclature, stripping, assembling, care and cleaning, windage and elevation changes on the sights for the Service Rifle, and stoppages for the B.A.R.

The company was equipped with three 37-mm. guns and three 3-inch Trench Mortars as auxiliary weapons for use in the defense of the Diplomatic Quarter. All men were trained to use these weapons so an examination on them was given. This examination included nomenclature, stripping and assembling, care and cleaning and sight-setting on the 37-mm. gun and laying the Trench Mortar for elevation and direction. These examinations were also given by sergeants after they had been approved by the company commander.

An examination on semaphore signalling was given because all men were trained in it. The examination

consisted of sending and receiving groups of words of one hundred letters each. The grade was computed by considering the time required and the errors made.

It may appear that these numerous practical examinations would take a great deal of time, but each examination was conducted by a different person and the candidates went from one to another on a schedule which eliminated waiting between examinations. The usual procedure was to hold the close order drill examination one morning, all of the other practical examinations the next day, and the written examination, which generally required two or three hours, a day or so later.

Length of service was given the weight of 20 in the belief that the longer a man's service the more varied his experience has been and the knowledge he has gained coupled with a more mature age should make him a better soldier. The grade for the length of service was computed on a basis of years and fractions thereof to the nearest one-twelfth.

Believing that ability to use the basic weapon, the Service Rifle Calibre .30 is perhaps the most important attribute of a private or private first class and because all men fire the same qualification course with it and have an equal opportunity to make a high score a maximum weight of 20 was given to it. Every point made by a man firing for qualification increased his grade by .2666 of a point so even if he was not in the money there was an incentive to make as high a score as possible.

Bayonet and Hand Grenade qualification scores were counted because all men were trained with these weapons and put through the qualification course. As in rifle qualification, the better the score made by the man the more credit he received, so again there was an incentive to do his best and not merely qualify.

Rifle Grenade scores were determined from a course which all men fired. The course required five grenades (iron spools) to be fired from the prone position and then to advance about fifty yards and fire five more from the kneeling position. The targets fired at were two circles fifteen yards in diameter at different ranges. The firing was all indirect, the man firing the grenades doing so from behind a ridge which prevented him from seeing the targets. He had to change the direction and elevation of his piece from "spots" given by an observer who watched the grenades fall and spotted them, giving the error in yards as "20 right, 10 short," etc. The average number of hits made by all men in the company was four, although several men made as many as seven out of the ten shots. To determine the grade which a man received he was given .4 of a point for each hit.

Qualifications with the Browning Automatic Rifle and the Thompson Sub-machine Gun were counted because it was felt that the man with the experience gained by qualifying with these weapons was more valuable than a man who had never fired them. The weights given, however, were small because only a few men could be given an opportunity to fire them.

A series of five musketry problems were fired by all squads and the combined grades for all problems determined the squads' standing for the year. (See "Squad Musketry Problems Which Can Be Fired on Rifle

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Ranges" in THE MARINE CORPS GAZETTE, March, 1939). All men on regular duty had an opportunity to fire the problems and we believed that their importance warranted a credit of 5 for membership in the highest squad. Men on special duty who did not fire were given a credit based on their individual marksmanship ability, using their rifle qualification score as the determining factor. A score of 290 gave them a musketry score of 1, with 1/10 of a point for every point of qualification score above that.

Athletic ability was given the maximum weight of 9 because at this post athletics play a large part in the effort made to keep up morale of men in a place where amusements and diversions for enlisted men are rather limited. Credits for athletic ability acted as a decided stimulus to encourage men to participate in athletics and try out for various teams.

The provision for making the list void after six months gave new men joining the organization a chance for promotion and prevented a man on the list from feeling that his promotion was "in the bag" and consequently slacking off in his work.

It may be argued that we have gone to great trouble to select so unimportant a person as a private first class. My answer to that is that it was not great trouble and that even if it were it would be worth it because few things can be more important in any organization than fair opportunity for promotion. Establishing a system which does this is worth any amount of trouble.

The more extensive and varied the examinations are the more men study to prepare for them. The more phases of training which are considered the more a man will try to make good in everything in which he receives training.

As to how well the system works I can say that the performance of duty by the men promoted has been in general highly satisfactory. On several occasions when the examinations were completed and the grades compiled and the men listed according to their standings, I felt that some particular man should have been higher than some other man. But the list was never changed. I felt that they had all been examined fairly and all of their qualifications considered and my opinion of the different men's abilities could easily have been in error. What they did on the examinations and what they had done in their rifle shooting, bayonet qualification and other training in the company was their own work and reflected their worth much better than could be determined by my or anyone else's opinion of them.

To compensate for any doubts which at times have arisen in my mind about the system getting the best men I know that throughout the entire company there is the feeling that promotion is on the level and above board and that whether a man is promoted or not depends upon himself alone and not upon anyone's favor or any other circumstances. Such a feeling among the men has increased interest in the training and has produced a high morale.

HONORABLE MENTION

The following essays received "Honorable Mention" and will be published in a later issue of the GAZETTE:

"Advance Flight School." By Major Lester N. Medaris, U.S.M.C.

"The employment of the Marine Rifle Company in Street Riot Operations." By Captain Wallace M. Greene, U.S.M.C.

"Information Please." By Captain David M. Shoup, U.S.M.C.

Ed.

THE PASSING OF A MARINE CORPS FRIEND

H. H. "Jack" Chambers, Western Sales Manager of Caterpillar Tractor Co., died at Peralta Hospital, Oakland, California, Saturday, October 21, after a lingering illness. He was 47 years old.

Death came as a distinct shock to Mr. Chambers' host of friends and business associates. His long service with "Caterpillar" had taken him to all parts of the United States, and had given him a wide and intimate acquaintance among leaders in construction, logging and agriculture. His keen wit, hearty laugh and remarkable memory for names, faces and incidents contributed to make him one of the most popular men in the industry.

The biography of "Jack" Chambers is one of a life distinguished by self-education, perseverance and a courage and honesty that took him steadily to a high place in the "Caterpillar" organization and earned him the esteem that only an executive whose "word is his bond" can win.

Mr. Chambers was one who took greatest joy in his family and in his home. He was a man of few hobbies other than a great love for books. His search for knowledge was insatiable.

Homer Howard Chambers was born at Raymond, Illinois, the son of Joseph Melvin and Carrie Denson Chambers, June 26, 1892. Spending his boyhood days in Illinois, he came to the Holt Manufacturing Company, "Caterpillar" predecessor at Peoria, Illinois, in December 1914, obtaining employment in the shop. His ability soon attracted the attention of his supervisors and from his factory job he was transferred to the company's service department.

When this country entered the World War, the Holt Company became a beehive of activity and one of the principal centers of its kind in supplying tractors for war service. U. S. Ordnance staffs were sent to the Peoria factory, and Mr. Chambers was assigned, on the department's payroll, as an instructor at Camp Herring, as the military quarters adjacent to the plant were known.

During his service as instructor in 1918, Mr. Chambers taught generals and enlisted men alike, the intricate details concerning the construction and maintenance of track-type tractors. The proficiency with which he did this work was soon to be rewarded, for after the war's end, Mr. Chambers was promoted to assistant service manager, and in 1921, became service engineer.

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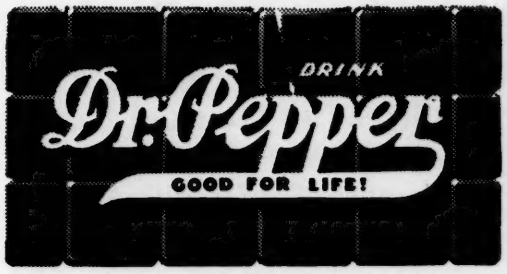

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Accepting a partnership in the Milwaukee, Wisconsin, "Caterpillar" distributorship, Mr. Chambers resigned his position with the company in 1925, but returned three years later to take an important assignment in the company's sales deparment. A year later, he was named sales manager of the western division with headquarters at San Leandro, California, the position he held until his death.

Under Mr. Chambers' guidance, the "Caterpillar" western sales organization has made steady progress in agriculture, construction and logging throughout that division which includes states in and west of the Rocky Mountains, as well as British Colombia and Alaska. The very traits which served him so well during his earlier days with his company, contributed much to his success in the development of business in the west.

Mr. Chambers and Miss Mary Alloway, of Peoria, Illnois, were wed at Peoria in 1918. She, and one daughter, Miss Jeane Chambers, a student of Stanford University; a sister, Mrs. W. T. Schwertfeger, of Mt. Olive, Illinois, and a brother, L. L. Chambers, of Harvel, Illinois, survive the deceased. In Oakland, the Chambers resided at 492 Staten Ave.

Funeral services were held at the Mausoleum of Mountain View Cemetery Chapel, Oakland, California, October 22.

Caterpillar Tractor Company has announced the appointment of V. H. (Vic) Wallace as Western Sales Manager. Mr. Wallace succeeds the late H. H. Chambers, and will have his headquarters in San Leandro, California.

In 1927, he became affiliated with "Caterpillar's" Advertising Department at San Leandro. He was almost immediately sent to Peoria, Illinois, as Assistant Advertising Manager at that office. He was there for five and a half years, and in January, 1933, was transferred to the Western Sales Division as District Representative. In that capacity, he headquartered briefly in Los Angeles, and then worked out of San Leandro, taking the territory as far north as Vancouver, B. C.

In 1935, Mr. Wallace was appointed Agricultural Sales Manager of the Western Division, with headquarters at Spokane, Washington. He continued in that capacity until November, 1938, when he was transferred to San Leandro, to act as Assistant Sales Manager, which position he held until the time of his latest appointment.

CAMOUFLAGE LITERATURE

(*Continued from page 26*)

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CAMOUFLAGE TO HIDE PLANES FROM THE ENEMY. *New York Times,* 9 May, 1937.

Describes the use of "shadow shading" as now applied to "British aircraft." They have adopted irregular patches of dark green and dark earth color on their upper surfaces and a dull black below. The black is calculated to baffle searchlight crews on the ground and the green and brown of the upper surfaces are intended to make it difficult for enemy machines to pick up bombers either flying low or picketed on the ground."

CAMOUFLAGE. *Doubleday's Encyclopedia,* Vol. II.

The nature and scope of the art of camouflage is defined. Camouflage and strategy are discussed from a broad viewpoint. Materials employed, effects of light and shade, and tone values of aerial photographs cover the remainder of the article.

CAMOUFLAGE FOR TROOPS OF THE LINE. British Army, 1918.

This pamphlet discusses camouflage from the standpoint of "1. concealment, and 2. camouflage discipline; neither being of value without the other."

Concealment is covered under the following sections: screens and their setting and characteristics; road and flash screens; screening by mimicry or simulation; trenches, gun positions; artillery in the open; and camouflage by distraction.

Camouflage discipline is covered under the sections: general, tracks, batteries, buildings and shadows, protective coloration, military works, railways, and observation posts.

Numerous historical examples are given to explain the point illustrated in each section.

FORTIFICATION—CAMOUFLAGE FOR ARTILLERY. TR 195-45, February 1, 1926. U. S. Corps of Engineers, 38 plates and sketches.

Takes up the detail and correct practice of artillery camouflage by considering each feature in turn—choice of position, camouflage discipline, layout of battery and erection of materiel, and camouflage materials. The section on special features covers snow camouflage, communications, dummy positions, ammunition dumps, telephone lines, horse lines, kitchens and battery personnel. In the paragraph on painting of guns and vehicles it states: "Guns painted in one solid color which blends with the color scheme of the vicinity are just as inconspicuous (as large irregular patches) and this method avoids the expense and difficulty of the irregular patches."

TRAINING RUMINATIONS, 1937. Lt. Col. A. F. Lambert, M.C., R.A. *The Journal of the Royal Artillery,* Vol. LXV, No. 2, July, 1938, pages 189-198.

In this article pertaining to mechanized units, Colonel Lambert writes on concealment: "The problem of concealment remains as baffling as ever. Cover from air was hard to find in East Anglia, and an ostrich would have sympathized with some of our efforts. Hedgerows were often the only cover available and many of them would not have concealed any mechanical transport larger than

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a motorcycle." In this case he recommends dispersion of single vehicles all over the fields and gives up all idea of concealment or, better still, to push all mechanical transport into back areas. "The speed on maneuvers makes it difficult to pay proper regard for track discipline * * * for track discipline means more than the mere keeping of tractors to a single track and pushing the guns and trailers off it by hand. It calls for forethought and reconnaissance by an already overworked gun position officer, who really needs to make a track scheme for every gun position that he occupies. * * * Judging from the air photographs of the maneuver area, stubbles are as bad as any fields for showing up tracks. Grass, other than the shortest, is a good second."

CAMOUFLAGE SERVICE. Works of the Royal Engineers in the European War, 1914-1919. Miscellaneous Papers. Royal Engineers. Chatham, England. Vol. VIII, Section (iii). Illustrated.

In general, covers the organization of the British, French and American Camouflage services during the World War, including depots, supply and design. Has many sketches and charts showing what was furnished from the depots.

THE SCIENCE OF LOW VISIBILITY AND DECEPTION AS AN AID TO THE DEFENSE OF VESSELS AGAINST ATTACK BY SUBMARINES. Lindell T. Bates. The Submarine Defense Association, 141 Broadway, New York City, 1918. Illustrated, some in colors.

Discusses the Submarine Attack and Methods of Defense Against It. Describes Navigation Factors in the Danger Zone, Visibility Factors in the Danger Zone, the Establishment of a Smoke Screen, the Elimination of Smoke from Vessels, Estimating the Range, Course, and Speed of a Vessel from a Submarine. Gives a full history of Protective Coloration of Vessels, the Purposes and Field of Protective Coloration of Vessels and Characteristics of the Present Systems of Protective Coloration.

The Reduction and Modification of the Superstructure of Vessels, Protective Coloration for Low Visibility, and Protective Coloration for Deception are discussed in full.

The final chapters, A Scientific System of Protective Coloration and Conclusions, are especially interesting, as are the models in color of the different systems of camouflage in vogue during the World War. Black and white illustrations of examples for controlling the obscuring of form, outline blurring after blending and deception by perspective distortion bands might have some application in the camouflage of fast moving vehicles in land warfare.

MILITARY INTELLIGENCE. TR 210-10. Tactical Interpretation of Aerial Photographs. War Department, January 4, 1926. Sec. VI, pp. 41-42. Illustrated. Prepared under the direction of the Assistant Chief of Staff, G2. Covers the detection of camouflaged batteries by the correct reading of aerial photographs.

FIELD ARTILLERY. TR 430-105. Tactical Employment of Field Artillery prepared under the direction of the

Chief of Field Artillery. War Department, September 5, 1924, pp. 244-246.

Section XXII. Concealment and Protection. Covers, in general, Concealment and Protection. "In selecting a position, the maximum defilade compatible with the mission of the battery should always be sought. All necessary camouflage should be constructed promptly, if possible, before the position is occupied. Nets, if used, should be carefully placed and adjusted and *kept* in this condition. Instruction as to the circulation and the use of paths should be made clear to the men and all the requirements of camouflage discipline strictly enforced. * * * Higher commanders must guard strictly against all violations of proper camouflage discipline by themselves and by members of their staffs. Cars should not be driven close to C.P.'s or to batteries, or left standing in the road close at hand to attract the attention of aerial observers. Every precaution should be taken in approaching and leaving O.P.'s or other posts exposed to ground observation to avoid betraying their position."

Defensive Combat in the War of Position. After Ludendorff. Commandant Gevais. *La Revue d'Infanterie*, Ministere de la Guerre, Paris, France. May, 1938, 47th year, No. 548, page 1197. Translation from the above publication.

"The second big means used by Ludendorff is the invisibility and camouflage.

"The resistance strength," he writes in bold characters, "does not depend solely on the organization stability, because, sooner or later, even the strongest will succumb under the heavy artillery fire of the enemy.

"It is then necessary to promote the dispersion of this firing in time and space; or the results will be obtained as well when organizations of all kinds have been multiplied in the interior and between zones of combat, and so distributed on the ground that they shall be more difficult to discover by ground and aerial observations.

"If we proceed so, we then assure the invisibility of the occupation. It will be with difficulty that the enemy will find the more important points of defense; they will be obliged to disperse their fire, and in that way, consume a considerable amount of ammunition and loss of time.

"The invisibility of all organizations," he insists, "has a capital importance as far as ground and aerial observations are concerned. This invisibility will not be obtained only by dispersion and camouflage in all its forms, but also by the choice of combat zones.

"What counts more," says Ludendorff, "in the choice of a picked position, is not the field of fire, because it's not so important, but the communication facilities with the rear and consideration of friendly and enemy fires (Artillery). Zones must also be chosen that will permit us to observe the enemy and not be observed ourselves.

"It is first necessary to shield observation zones and battery emplacements with the infantry, to protect them well from ground and aerial observation." Ludendorff estimates that slope positions situated very near, back of the crest, offer the greatest advantage for that. "No doubt," he also states, "we will nearly always be obliged to place the first elements of infantry in front of the

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crest, but the others will be posted back, in order to escape enemy observation. If the slope is so that it is impossible to organize the defense behind the crest, resistance will be facilitated by flank artillery fire, machine gun fire, coming from all sides." Ludendorff agrees, however, that we cannot formulate a fixed rule on the subject of occupation of slopes.

PAINTING INSTRUCTION FOR CAMOUFLAGING OF ORDNANCE VEHICLES. October 15, 1918, Ordnance Department, U.S.A. No. 1867.

Outlines the underlying principles of the scheme of camouflage as applicable to the destruction of the identity of vehicles by the application of irregular patches of green, deep yellow, and light cream paint (also black on top surfaces), separated by irregular black lines called interlines. Well illustrated with 15 plates showing the correct and incorrect application of the paint in carrying out the principles outlined in the pamphlet.

CONCEALING COLORATION IN THE ANIMAL KINGDOM—AN EXPOSITION OF THE LAWS OF DISGUISE THROUGH COLOR AND PATTERN. The Macmillan Company, 1918. Gerald H. Thayer, 1st Ed., 1909. 16 colored plates and 140 photographs and sketches.

"While this is not a 'war book,' it is the main foundation upon which the very important feature of present-day warfare is based—camouflage, or the adoption to war use the laws and methods of 'concealment or disguise by color or pattern.' 'Thayer's Law,' countershading in the case of soldiers' headgear, was used by the British in the World War and Germany searched the book with most diligent care for information which could be put to military or naval use. The book was the basic idea for the new idea in 'war paint' on land and sea."

The contents of the book describe fully protective coloration, obliterative shading, counter shading, ruptive and secant markings, masking, mimicry in nature from the standpoint of birds, mammals, fish, reptiles, amphibians, caterpillars, butterflies, moths and insects.

To understand the fundamentals of camouflage as applicable to war one must understand this book "Concealing Coloration in the Animal Kingdom."

CAMOUFLAGE IN NATURE—WITH SOME OBSERVATIONS UPON ITS APPLICATION IN WARFARE. Clifford W. Greatorex, *Royal Air Force Quarterly*, January, 1936.

This article gives numerous illustrations of the fundamental laws of camouflage in nature as compared to the misapplications of these same laws in warfare, notably the Boer and World Wars.

Quoting Professor Poulton (Hope Professor of Zoology of the University of Oxford and Fellow of Jesus College, Oxford), he divides concealing coloration in animal life into two kinds, obliterative and imitative, and further into anti-cryptic or aggressive resemblance for the purpose of attack (1) aggressive obliterative coloration, (2) aggressive imitative coloration or resemblances, and the more abundant type, procryptic or

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protective resemblances (1) protective obliterative coloration, (2) protective imitative resemblances.

In describing these different types of concealing coloration, he gives numerous examples of how the type is applicable in warfare.

PROTECTIVE COLORATION AS A MEANS OF DEFENSE AGAINST ATTACK BY SUBMARINES. Lloyd A. Jones. The Submarine Defense Association, 141 Broadway, New York City, 1918. 39 illustrations and charts.

Discusses the problems under the following headings, which are the results of experiments carried out by the writer: Low Visibility and Deceptive Coloration, Low Visibility, Nomenclature and Definitions, Theoretical Analysis of the Low Visibility Problem, the Measurement and Specification of Visibility, the Visibility of Surface Craft from Submarines, Experimental Results, Conclusions on Low Visibility Coloration, Deceptive Coloration, Light Filters, and Conclusion.

STRATEGIC CAMOUFLAGE. J. Solomon. R.A., E.P. Dutton and Co., New York, N. Y., 1920. Numerous illustrations in color, black and white and sketches.

This book covers camouflage on a broad scale, such as the camouflage of whole areas in the rear of the German lines during the World War; for the concealment of large bodies of troops in reserve and similar purposes.

In presenting the case the author first shows aerial photographs of areas supposed to contain camouflaged airplane hangars, railroad centers, pumping stations, canals, roads and similar installations; then he shows enlargements of the photographs of these areas and then by reading the tone values of the enlargements interprets them to be the installations noted.

Some exceptionally interesting chapters are as follows: Camouflaging the Ground, Strategic Camouflage, Analysis of Photographs, Camouflage Methods, Analysis of Some Details, Covered Roads, Orientation, Field Coverings and Camouflaged Examples.

One of the few phases in camouflage literature where mention is made of the analysis of aerial photographs by the study of tone values for locating suspected camouflage installations.

WAR MEMORIES. General Ludendorff (Germany).

In referring to the 1918 March Offensive, the book states, page 589: "Such as preparing battery positions, screening roads, constructing anti-aircraft shelters, etc."

Page 596: "The divisions had at first been distributed behind the front of attack, but were now crowded together in anti-aircraft shelters behind the jumping-off places in our foremost lines. This concentration of 40 or 50 divisions had not been observed by the enemy.

"But no more did the enemy airmen discover the railway transport that had been taking place behind the front of attack since February."

Page 597: "Every delay must have increased the difficulties of troops crowded together close up to the enemy."

FIELD ENGINEERING—A PRACTICAL EXPOSITION OF ORGANIZATION OF THE GROUND FOR DEFENSE AS DEVELOPED BY THE U. S. ARMY IN THE WORLD WAR. P. S.

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Bond, Lt. Col., U.S.A., and others. *The New Military Library,* Baltimore, Md., 1923.

Chapter XIV of this publication covers the following: camouflage, importance of and knowledge of, necessity to infantry, means of detection, selection of and changes in the previous appearances of the terrain, characteristics of natural and artificial forms, camouflage nets, proper and improper use of and mistakes in the use of, and screens.

Chapter XV covers the following: tracks, dummies, conduct of personnel, natural concealment, camouflage in open warfare, miscellaneous works, materials employed in camouflage, camouflage discipline, and practical problems.

CAMOUFLAGE—OBSCURING (BLACKOUTS). *Militarwissenschaftliche Mitteilungen,* March, 1938 (Austrian). Lt. Col. Schorgi. Translated from the above publication.

An exceptionally good article covering the following: Camouflage in Field Warfare, Camouflage in the Border Zone and in the Field of Operations, Camouflage in the Hinterland, at night, Obscuring of All Objects Is of Prime Importance and Illumination of Vehicles. In discussing aerial observation, the author quotes Dr. G. Stampe as follows: "A picture of the target can only be seen by the attacking observer when (1) the object is different from the surrounding terrain, (2) the path of the rays of light from the object to the eye is not obstructed or obscured, and (3) the eye of the observer is normal."

Of the location of airfields and anti-aircraft battalions, the author states: "* * * should not be located near long and straight lines formed by streets, railways, canals, nor distinctive heights or structures, because such parts of the terrain are given special attention by the observer and any target once located can thus be easily found on subsequent attacks."

Of camouflage of the hinterlands, the author states: "All obvious marking of the terrain should be avoided. Natural camouflage (trees, shrubbery, grass) and artificial camouflage (correction of silhouettes, camouflage nets, smoke screens) should be used extensively. * * * Shape-destroying or irregularly checkered coloring, which proved its worth in the World War on isolated buildings, is the coloring which is not so much meant to harmonize with the coloring of the terrain but such as to destroy all outlines of the buildings by the use of contrasting, checkered and irregular coloring. The paints used should vary from dirty white to light gray and from gray to black. These paints may be used singly or in connection with green, blue or brown."

Of the growth of plants, the author states: "Trees or bushes are most helpful when:

(1) They are planted in an irregular order.
(2) They absorb the silhouettes of the object, and,
(3) They disrupt, with their shadows, the contours of the object."

Night obscuring is divided into the following by the author in discussing air raids: "Obscuring is generally divided into two parts, (1) reduced illumination, and (2) total darkness."

(*An additional review of Camouflage Literature by the author will be published in the next issue.*—ED.)

HAVE YOU PAID YOR DUES TO THE ASSOCIATION?

THE COMBAT BOARD

(*Continued from page* 21)

the target. Despite the high and erratic dispersion value of Stokes mortar shell this method was found to work better in field firing than the spotting of single rounds. Rapidity of fire and quick changes of firing position are emphasized in mortar training.

The spotting stick serves most realistically to portray the dispersion, wind effect, rapidity of fire value and vulnerability of the mortar and to quickly and thoroughly teach the crew proper spotting control and service of the weapon.

Sufficient sand loaded cases and dummy fuses with pins are made available to simulate actual firing. No. 2 pulls pin and No. 1 carries the shell forward into loading position but, instead of dropping the shell into the barrel, No. 1 swings the shell slightly to his right rear where it is grasped by an extra number and passed quickly back to the rear of the mortar where a pin is replaced and the shell moves forward again to No. 1. No. 1 meanwhile follows through with his simulated loading operation and takes the next shell from No. 2.

After a short time mortar drill usually grows extremely tiresome for the men but when worked in this manner in conjunction with other features of the spotting board, marines remain interested in the work.

Several minor modifications from the drill regulations are made in servicing the mortar. No. 3 is taught to call out cartridge and number of rings on every shell passing forward from his hands. No. 1 calls out, "Ready One; Ready Two, etc.," and the gunner orders, "Fire One; Fire Two, etc." "Cease Firing." This knits the movement of the gun crew into smooth team work.

The observer and gunner are taught to make and repeat all hand signals slowly and distinctly. Several auxiliary hand signals are devised for orders in the field in order to secure continuous operation of the mortar with the observer away from the mortar position.

The combat board has been described above as laid out on a large floor. Emphasis should be stressed, however, on the fact that a similar but modified system may be quickly laid out on the ground or on a ship's deck. Distances may be paced, varied in length, and approximately to scale. An aiming stake, a stick or cleaning rod may be used as a pointer in lieu of the spotting stick lamp. In any case the purpose of giving each individual man a picture of what actually takes place in the field firing of howitzer weapons and of training him to spot as well as to service the gun or mortar will be accomplished. It should also be noted that this system teaches the individual marine not only how to spot howitzer weapons but also gives him a working knowledge of the fundamentals of fire control for field artillery and Navy broadside guns. As for mobility, this method of teaching goes where the gun goes, which is something no sand table or miniature mortar range can do.

Infantry units can also be trained on the combat board. The only addition required is that of *training blocks*. These blocks are square pieces of wood, two inches on a side. Each block represents a man. On the head of each block

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may be painted a designation, e.g., BARman, rifle grenadier, etc. In problems on the combat board the training blocks are placed in positions corresponding to those actually occupied by men on the real terrain. Each man taking part in the problem is assigned a training block which represents himself. During the development of the problem each man moves his block as he himself would move over the actual terrain represented.

To illustrate the operation of the combat board in the training of infantry units, a group of five problems covering night patrol operations is now presented. The sequence of the problems follows TACTICS AND TECHNIQUE OF INFANTRY; the situation and operation are that of the combat board. The board has been laid off to represent two opposing trench systems complete with wire. Additional equipment required: 3 marching compasses, pencil and paper.

Problem No. 1.—(First Night)—CHECKING YOUR OWN WIRE.

Situation: Co. "E" has relieved Co. "F" in the 2nd Battalion sector. It is the first night after the relief has been made. You are a sergeant in the 1st platoon. During the afternoon the platoon leader has assigned you the job of checking the protective wire in front of your platoon sector. Seven men besides yourself are to compose the patrol. You will move out and return after darkness.

Requirements: (1) Assemble your patrol. State your job, explain how you intend to accomplish it; assign each man his position and duties in the patrol, state the set of signals to be used and give the equipment each man is to carry. Dismiss your patrol.

(2) Assemble and inspect your patrol. In inspecting what do you look for? Give each man his training block which he is to move on the combat board.

(3) Execute your mission. (Each man moves his own block on the combat board. He executes the signals by tapping the board with the block.)

Problem No. 2.—(Second Night)—LOCATING ENEMY OUTGUARD.

Situation: Two scouts from the 2nd platoon of Co. "E" have been assigned the job of determining enemy outguards. You are the scout leader.

Requirements: (1) Select the equipment which you will take with you.

(2) State the system of regular signals you will use.

(3) Using the training blocks proceed with the other scout through your own wire to a listening post.

(4) The instructor will indicate by cough, voice, light, etc., two or more enemy outguards. Locate and record. Return to your own trench.

Problem No. 3.—(Third Night)—INSPECTING ENEMY WIRE.

Situation: Your platoon leader has designated you as patrol leader of an eight-man patrol with the mission of inspecting the enemy wire opposite your sector for possible gaps.

Requirements: (1) Assemble your patrol. State your job, explain how you expect to accomplish it, assign each man his position and duties in the patrol, state the set of

signals to be employed and give the equipment each man is to carry. Dismiss your patrol.

(2) Assemble and inspect your patrol. Give each man his training block.

(3) Execute your mission. Show how you locate and record any data regarding gaps in the enemy wire. Return to your own trench.

Problem No. 4. — (Fourth Night) — RAIDING PARTY.

Situation: From the data obtained in problem No. 3 you are assigned eighteen men beside yourself as a raiding party with the mission of raiding the enemy line and capturing and bringing back an enemy prisoner.

Requirement: (1) Assemble and instruct your party. Dismiss.

(2) Assemble and inspect your party. Assign each man his training block.

(3) Execute your mission and return to your own lines.

Problem No. 5.—(Fifth Night)—AMBUSH.

Situation: From the data obtained in problem No. 3 and from other information available it is determined that enemy night patrols of approximately eight to ten men are habitually using the gaps which were discovered in their wire. You, with nineteen of your men, are assigned the job of ambushing an enemy patrol which is expected to pass through a designated gap tonight.

Requirements: (1) Assemble your patrol and issue the necessary instructions. Dismiss.

(2) Assemble and inspect your party. Assign each man his training block.

(3) Execute your mission and return to your own lines.

A series of combat problems has been outlined above but a parade, guard mount, orderly duty and a thousand and one other things that marines are supposed to know and do well can be worked out on this board.

The "picture works the prob." On the combat board a howitzer man actually sees and does what he will see and do in the field. A private in the rear rank of an infantry squad figuratively grabs himself by the neck when he grasps his training block. Looking at the picture on the board he says and does what he will say and do in the actual situation on real ground.

SOME CAUSES OF ANCIENT AND MODERN WARS

(*Continued from page* 17)

in creating a religious movement among the Arabs which gained so rapidly in momentum that, in a comparatively short period, his fanatical followers were able to conquer and to proselyte nearly all of Asia. They also carried the "Crescent" in triumph to northern Africa and across the straits of Gibraltar into Spain and Portugal. After bringing nearly all the people of that Peninsula under subjection, a powerful Saracen army invaded France and reached the great plain south of Tours, where they were overwhelmed in battle by the hosts of Christendom under the leadership of Charles Martel, the illegitimate half brother of the King of the Franks.

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This decisive victory probably saved Europe from becoming Moslem, and so heartened the Spaniards that after a state of constant heroic warfare extending almost to the discovery of America, they finally were successful in expelling from Spain the Moorish King Boabdil and his followers.

Farther east, the militant Moslem Turks ultimately succeeded in vanquishing the Eastern Empire and in occupying its capital city, Byzantium, and all of the territory south of the Danube, including Greece and the adjacent islands. Even today, St. Sophia is a Mohammedan mosque and the authority of the present ruler of Turkey in Asia extends over Constantinople, Adrianople and a small portion of the European hinterland.

The successes of the Moslem Saracens in the Holy Land eventually brought on another series of religious wars, known as the Crusades.

Christendom having been thoroughly aroused by the fervid eloquence of Peter, the Hermit, a great evangelist, made one mighty effort after another to reclaim the sacred places of the Holy Land from the impious control of the Mohammedans, and religious fanaticism was thus, again, responsible for repeatedly drenching the ancient home of the Israelites and its approaches with human blood.

Not content with religious wars, the nations of the Old World engaged almost constantly in wars from other causes against each other. Wars of succession or dynastic wars were frequent, as were wars for the annexation of adjacent territory, wars for the possession of newly discovered areas, and wars of the strong against the weak for the purpose of subjugating them and destroying their independence. Civil wars, also, were frequently waged, and these increased in number and in violence when Martin Luther and his Protestant contemporaries hurled the javelin of Protestantism full in the face of the Established Church.

In fact, from one cause or another warfare continued almost without cessation in Europe until after 1815, when with the exile of the Emperor Napoleon Bonaparte to the Island of St. Helena there came a period of peace.

After Waterloo in 1815, the civilized nations of the world seemed, for a time, to be war weary and to be anxious to heal the wounds of war and to cultivate the arts of peace.

This war weariness, however, gradually vanished with the death of the veterans of the wars of the Napoleonic period, as the new generations which replaced them, to whom international combats were unknown experiences, were eager to undertake what they regarded as man's greatest adventure.

The United States and Mexico led off, and were soon followed by Great Britain, France, Turkey, and Russia in the so-called Crimean War. Then there occurred the brief conflict between France and Austria which ended with the battle of Solferino.

Then came the bloody war between the States in our own country. Following very soon after it were the Prussian-Austrian, the French-Prussian, and the Turkish-Russian wars.

Thereafter, for more than a decade the world was free

of major combats. Then there came in rapid succession the Chino-Japanese, the Grecian-Turkish, the Spanish-American, the British-Boer, and the Russian-Japanese wars.

Europe was once more in a ferment. National and racial jealousies, commercial rivalries, military and naval competitions, lost or unredeemed territories, offensive and defensive alliances, territorial acquisitions — all these pointed to the occurrence of a major catastrophe. Minor fires such as those in the Balkans were, at least, partially extinguished without becoming a great conflagration, but many embers continued to smoulder.

Most men and women in America, however, and many in Europe refused to believe that another general conflict would be precipitated.

They blinded themselves to the conspicuous signs which they should have been able to read.

They did not face the facts, but calmed their fears by the repetition of parrot-like shibboleths such as: A major war is unthinkable, the rulers of civilized nations would not dare to permit a conflict whose consequences could not be foreseen, the people would revolt rather than go to war, the laboring classes would decline to fight each other, the cost of a modern war would be so great as to bankrupt the participants therein within a few months, the great bankers and other financiers would refuse to finance such a war, etc., etc.

Americans deemed themselves secure, and with the exception of a few, felt certain that the oceans which separated their country from the Old World would serve as effectual barriers to our being drawn into participation in such a war.

Suddenly, in the midst of all this futile discussion, there was a shot fired by an obscure man, in an obscure town, of an obscure province of the Austro-Hungarian Empire which killed a Prince.

Ominous quiet prevailed for a month, then the explosion came.

Ultimatums, mobilizations, hysterical attempts at eleventh hour intervention, hostile acts, invasions, declarations of war, battles, death, and destruction followed each other in rapid succession, and the world endured more than four years of unprecedented agony.

The cost in treasure and in life has not yet been accurately estimated. It was prodigious, it was appalling, and the nations involved in it have, as yet, scarcely reached the convalescent state.

In spite of this, hostilities have since been carried on in various parts of the world almost continuously—Greece and Turkey, China and Japan, Italy and Ethiopia, Spain, and now, a major European War is in progress.

For some months, there had existed a serious controversy between Germany and Poland concerning Danzig, and the so-called corridor connecting Poland with the sea. That controversy, of late, has rapidly become acute, and on September 1, 1939, the German armies invaded Poland, and in about two weeks they defeated the Armies of Poland and occupied the western part of that country. The Russian Armies have occupied the eastern part.

On September 3, England and France declared that a state of war automatically existed between those coun-

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tries and Germany, in consequence of the attack on Poland by the German armies. All the other nations, including Italy, proclaimed their neutrality.

What does the future hold in store for the world? Will warfare continue to be one of man's chief occupations, as in the ages that have gone by? What should be done by civilized people to prevent, or at least to make less frequent the coming of this, the most terrible of scourges?

The obstacles to be surmounted in the quest for permanent peace are, at best, well nigh insuperable.

The sketchy summary of the history of warfare which has just been given indicates that men individually and collectively are essentially pugnacious and combative. They seem always to stand ready to defend what they have, or to take what they want when they want it.

The League of Nations, which was intended to settle international disputes and to maintain peace, has become powerless, owing to the failure of the United States Senate to ratify the Treaty which created the League and owing to the subsequent withdrawals of Japan, Germany, and Italy from membership in the League. All nations, including the United States, have been, for some time, increasing their armies, navies, and air forces so as to be in readiness for any eventualities.

The United States has used every influence at its command for peace but all of its efforts were of no avail. Nobody knows how long the present European War will last, what additional nations will become involved in it or what the result will be.

It is clearly the duty of the United States always to be peace-loving but not supine; enlightened but not decadent; merciful but not lacking in virility; helpful to the world but not afraid of the world; just and honorable in all dealings with other nations but determined not to submit to injustice; earnestly advocating the peaceful settlement of all difficulties, but always fully armed and prepared to submit the decision to the arbitrament of arms should it be found that recourse to that tribunal cannot safely or honorably be avoided; anxious for peace and slow to wrath, but, having drawn the sword, to throw the scabbard away until the United States armed forces have decisively defeated the enemy forces.

BIRTHDAY OF THE CORPS

(*Continued from page* 11)

It's Tommy this and Tommy that,
And "chuck 'im out, the brute!"
But it's "savior of his country"
When the guns begin to shoot.

The British Marines, by the way, have an enviable record for loyalty during mutinies in the navy. Thank God we have never had such an experience, but if we do we know the Semper Fidelis on the bronze ornament means what it says. We have a legend also from our British cousins-in-arms of the marine detachment that stood at present arms while the ship went down. I question the good sense of the man who ordered this, but I *must* admire

the good discipline of the men who executed the order. It is quite mad but also magnificent. It is to be cherished as a tragic but admirable gesture from the past of the sea-soldiers from whom we spring. There is a spirit which seems to say to the true soldier that death is quite desirable (under heroic circumstances, of course). Certainly it is preferable to a mean existence, dragged out prosaically by evasion of the dangers to which we should expose ourselves. We have an apt illustration of this in the words attributed to various leaders, including the Duke of Wellington and Dan Daly. In exhorting their men to follow them into danger they are alledged to have employed the inspiring words: *"Come on, you S*** O* B*****s, do you want to live for ever?"* Whether Dan Daly or the Iron Duke was the originator of the words we cannot say, but it does illustrate the spirit which, once infused, lifts the meanest to the highest by an exaltation of the soul rising beyond earthly things. Upon the basis of this spirit, the existence of the Corps has been more than justified by the history of the country they serve.

However that may be, it was only a digression to refer to the existence of an heroic spirit in the present cynical age, where those who have faith in the honorable profession of arms seem all too few. Perhaps the spirit is indiscernible at times, and also the faith, but I believe it is there, in the innermost heart of every Leatherneck. The country we serve is well worth dying for. Some rascals try to make a mess of it, but our faith and our spirit, and our discipline will always prevent them.

Justification by the spirit alone, however, would be most incomplete. There is indeed an excellent strategical *raison d'etre* for this Corps; one which Mahan has pointed out most ably. The support of the fleet by land warfare is possible by the army. Indeed, any large scale operation will require the army's participation. But there are many tasks of vital importance within this category which fit the capabilities and limitations of our small force admirably. And it is an admitted advantage to the Navy to have no command complications.

Within this sphere will most probably lie our general mission, and we should, as a consequence, be constantly prepared for it. Our training and our organization must inevitably point in this direction. Our clothing and equipment must likewise be planned with this service in view. I believe our mission is really the same as it was 164 years ago, essentially. We supported the Navy by military action, both on board ship and ashore. True, our riflemen today do not rain death upon the enemy's deck from our own tops. And military action ashore may require a complex set of modern armament instead of simple musketry, while the powdered wig and cocked hat are replaced with a helmet. But the things that served us well upon our first birthday—our self-reliance, our cocky combativeness, our willingness to tackle *"any job on earth,"* our deep conviction that we are first class fighting men, and that the nation will always need first class fighting men—these things may we always have to sustain us, together with our:

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